KOAMTAC

KDC User Manual

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May be covered under the patent laws of the US and other countries. For patent information in the US, see http://www.KOAMTAC.com/corpVis.html. Korea Patent No. 10-2013-0010827. Patent pending in UK as GB2492615 and in Korea as publication 10-2010-0136194.

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KoamTac® is a registered trademark and property of KOAMTAC, Inc.
KTSync® is a registered trademark and property of KOAMTAC, Inc.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO ANY TYPE OF MOISTURE. DO NOT LOOK DIRECTLY INTO LASER OR POINT THE LASER INTO ANOTHER PERSON'S EYES. EXPOSURE TO THE BEAM MAY CAUSE EYE DAMAGE.

CAUTION:

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

Regulatory Compliance

US

FCC ID: VH9KDC20, VH9KDC100, VH9KDC200, VH9KDC250, VH9KDC300, VH9KDC350, VH9KDC400, VH9KDC450

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference with one or more of the following measures:

1. Reorient / Relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a different circuit than the receiver.
4. Consult with the dealer or an experienced radio/TV technician for help.

WARNING:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Europe

CE 2200 CE 0983

Certificate No.: EMC15688-07-01

Products intended for sale within the European Union are marked with a CE Mark which indicates compliance to applicable Directives and European Normes (EN), as follows. Amendments to these Directives or ENs are included: Normes (EN), as follows:

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Applicable Directives:

• Radio and Telecommunications Terminal Equipment Directive 1999/5/EC

Scope of Opinion (Essential Requirements)	Applied Specifications/Standards	TCF Identification	Results
Article 3.1(a) – Health	EN 62311:2008	Statement	Complies
Article 3.1(a) - Safety	EN 60950-1:2006+A11:2009	ESTCS1101-002	Complies
Article 3.1(b) – EMC	EN 55022:2006+A1:2007 EN 55024:1998+A1:2001+A2:2003 ETSI EN 301 489-1 V1.8.1 (2008-04) ETSI EN 301 489-17 V2.1.1 (2009-05)	ESTCE0712-007(1)	Complies
Article 3.2 – Radio Spectrum Use	ETSI EN 300 328:V1.7.1 (2006-10)	ESTR0801-018(1)	Complies

Japan

003WWA080049, 003WWA090274, 208-120048, 208WW110041, 208-130029, 208-140011

Article 2-1-19, 2.4GHz Wide Band low power data communication system

Korea

MSIP-CMM-A13-KDC20, AI3-KDC100, AI3-KDC200, MSIP-CMM-A13-KDC250, MSIP-CMM-A13-KDC350, MSIP-CMM-A13-KDC350, MSIP-CMM-A13-KDC400, MSIP-CMM-A13-KDC450

Laser Compliance

KDC20/100/200/250/350L/410/415/430

Complies with US 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser notice no. 50, dated June 24, 2007 and IEC 60825-1 (Ed. 2.0)

Complies with IEC60825-1:1993 + A1:1997 + A2:2001

Battery Warning

- This device contains a rechargeable NiMH. Never throw the battery into a fire, as that could cause the battery to explode.

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- Never short-circuit the battery by bringing the terminals in contact with another metal object. This could cause personal injury, a fire, and/or damage to the battery.
- Never dispose of used batteries with other ordinary solid wastes. Batteries contain toxic substances.
- Dispose of used batteries in accordance with the prevailing community regulations that apply to the disposal of batteries. Cover the metal terminals with insulating tape (this is to prevent accidental short-circuiting).
- Never expose the battery to any liquid.
- Always keep the battery out of reach of infants or small children.
- Never shock the battery by dropping it or throwing it.
- Dispose of a spent or damaged battery promptly.

WARNING: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Product Disposal

This device should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

Bluetooth

Core Specification: 2.1+EDR

Apple

Made for iPhone, Made for iPod, Made for iPad

Samsung

Compatible with Galaxy Series

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1. Introduction

Congratulations on purchasing KOAMTAC's revolutionary barcode scanner and data collector. Lightweight and compact, with a user-friendly design and superior functionality, KOAMTAC's KDC works in a variety of portable applications. Use it independently or as an accessory to a PC, PDA, or smartphone. To find out more about KOAMTAC, Inc. and our family of products, visit us at www.KOAMTAC.com.

FEATURES	KDC20	KDC30	KDC100	KDC200	KDC250	KDC300	KDC350	KDC400	KDC450
USB CONNECTIONS	1	1	2	1	1	1	1	2	2
RECHARGEABLE BATTERY	YES	YES	YES	YES	YES	YES	YES	YES	YES
SCAN ENGINE	Laser	Imager	Laser	Laser	Laser	Imager	Laser/ Imager	Laser/ Imager	Imager
AUTOMATIC DATA UPLOAD	YES	YES	YES	YES	YES	YES	YES	YES	YES
STORES10,000+ BARCODES	YES	YES	YES	YES	YES	YES	YES	No	No
KTSYNC® SOFTWARE	YES	YES	YES	YES	YES	YES	YES	YES	YES
SDK	YES	YES	YES	YES	YES	YES	YES	YES	YES
SUPPORTS WINDOWS XP, 7, 8 & MOBILE 5.0+	YES	YES	YES	YES	YES	YES	YES	YES	YES
ANDROID, BLACKBERRY, IOS	YES	YES	NO	YES	YES	YES	YES	YES	YES
BLUETOOTH	YES	YES	NO	YES	YES	YES	YES	YES	YES
GPS	NO	NO	NO	NO	YES	NO	YES	NO	NO
NFC/RFID	NO	NO	NO	NO	NO	NO	YES	YES	YES
MSR	NO	NO	NO	NO	NO	NO	NO	YES	NO
USB DISK	NO	NO	YES	YES	YES	YES	YES	NO	NO

Table 1 - Features of KDC

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1.1 KDC Package

The standard KDC package contains:

1. One KDC Barcode Data Collector
2. USB Cable
   - KDC20/30 (N/A)
   - KDC100/200/250/300/350 (8pin Ultra mini USB Cable)
   - KDC400/450 (5pin Micro USB cable)
3. One Lanyard (KDC20/30/100/200/250/300/350) or One Hand Strap (KDC400/450)
4. KOAMTAC Installation CD with
   - KTSync© for Microsoft Windows XP, Vista 7 and Mobile 5.0+
   - KDC Device Driver
   - User Manual
5. One KDC Protective Rubber Boot (KDC100/200/250/300).

The following KDC accessories are available to purchase from www.koamtacstore.com or local reseller.

- Protective boot for KDC20/30/350.
- Smartphone cases for KDC200/250/300/400/450.
- Charging cradles for KDC20/30/100/200/250/300/350/411/421/430/450
- Finger Trigger Glove and KDC200/350/300 adaptor
- KDC350 hardpack battery charging adaptor
- KDC battery

Note

KDC400/450 smartphone cases should be purchased separately.

Depending on the region or distributor, package contents may vary.

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KDC20/30

KDC100/200/250/300

KDC350

KDC400/450

Figure 1- KDC Package

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1.2 KDC Characteristics

Before starting to use the KDC, the user should become familiar with its physical characteristics. Refer to Figure 2, Figure 3, Figure 4, and Figure 5 below that indicate the placement of SCAN, UP, and DOWN buttons, OLED display, LEDs, and ports on the KDC. Although KDC models consist of similar buttons and LEDs, each model has different characteristics for its own purpose of use. The KDC20/30/100 include a swing-out USB connector and the KDC350 has a keypad.

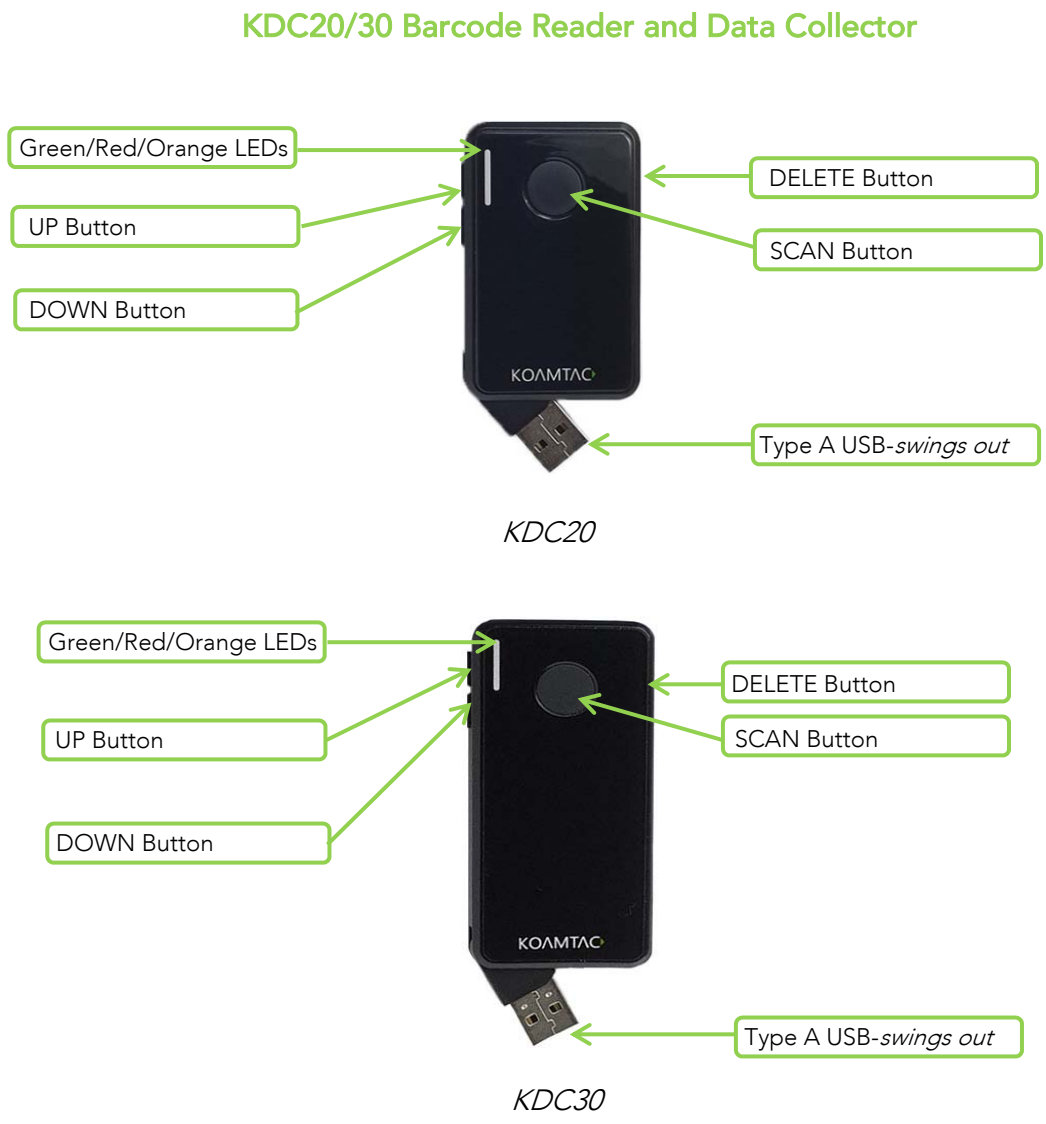

Figure 2 - KDC20/30 Overview

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KDC100 Barcode Reader and Data Collector

KDC100

Figure 3 - KDC100 Overview

KDC200/250/300/350 Barcode Reader and Data Collector

KDC200

KDC250/300

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KDC350

Figure 4 - KDC200/250/300/350 Overview

KDC400/450 Barcode Reader and Data Collector

Figure 5 - KDC400 Overview

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1.3 Keypad (KDC350)

Menu (Menu button)	Allows the user to enter or exit the KDC Menu. While in menu mode, press once to exit.
Shift (Shift button)	Allows the user to change character input mode from capital letters to small letters, and vice versa.
Mode (Mode button)	Allows the user to switch between ABC and number input mode.
(Up button)	While in the KDC menu, press this button to go up on the selection bar. While on the main screen, press this button and the KDC will try to connect to a BT host device.
(Down button)	While in the KDC menu, press this button to go down on the selection bar. While on the main screen, press this button to toggle the iOS soft keyboard (if the KDC is connected in HID-iOS mode).
1 2ABC 3DEF (Number button)	Input numbers or characters
# (Enter button)	Press to finish data input (if "Enter Key" option is disabled). Press to finish data input and move cursor to next line (if "Enter Key" option is enabled).
* (Delete button)	Press to delete the last character or number input
Fn (Function button)	This button can be used in conjunction with a number key to control the KDC settings shown below.

FN + 1	Keypad light On/Off
FN + 2	GPS Power On/Off (KDC350 G series only)
FN + 3	NFC Power On/Off (KDC350 N series only)
FN + 4	Enter Bluetooth Pairing Mode
FN + 5	Bluetooth Power On/Off
FN + 6	Change Bluetooth profile
FN + 0	Factory Default

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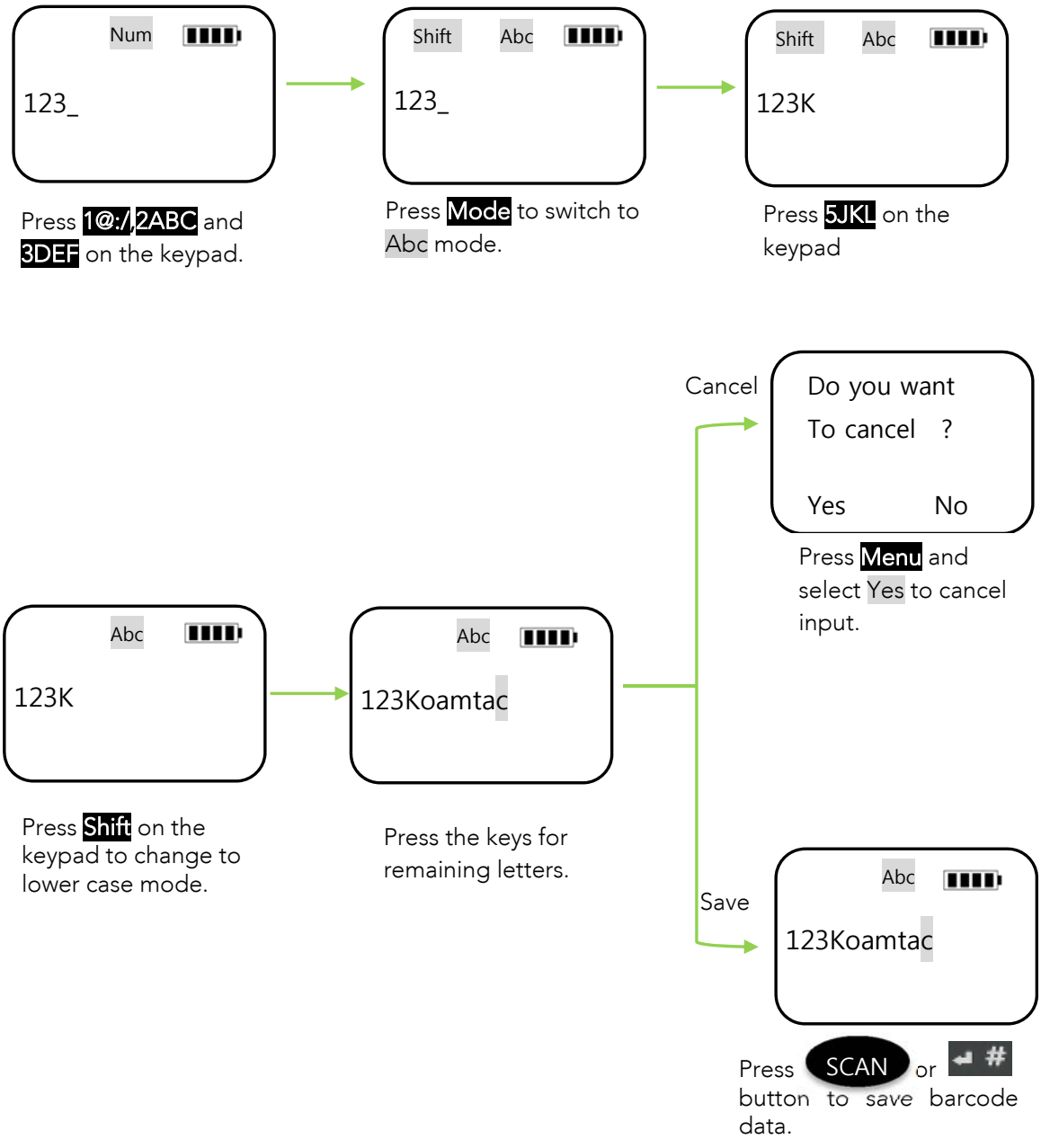
1.4 Input data by using a keypad (KDC350)

- When the KDC350 shows a blank main screen, you can start pressing numbers or characters of the barcode data that needs to be input.
- See an example below: How to save the barcode data "123Koamtac".



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1.5 Turn on the power of KDC20/30/400

KDC20/30/400 have power on/off switch. Please turn on the power first before using the device.

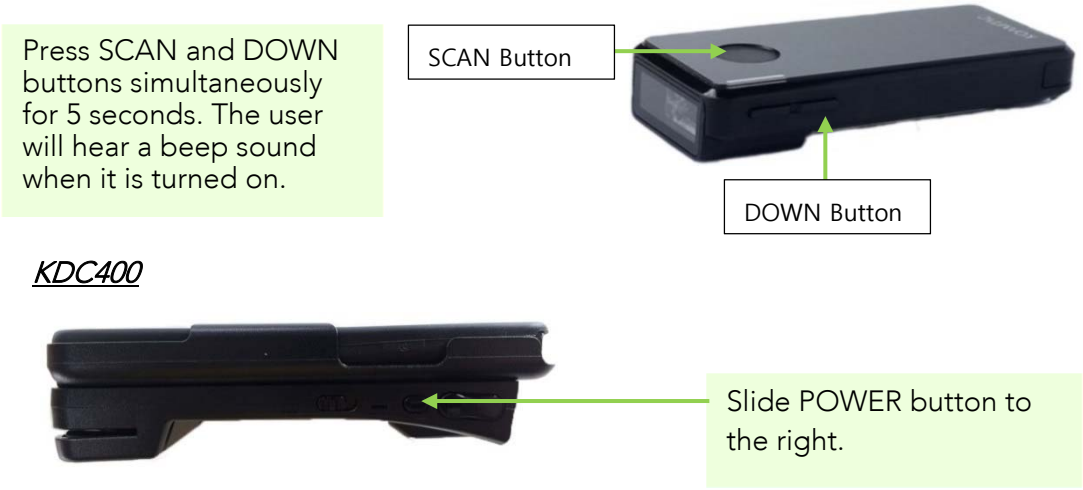

Figure 6 - How to turn on the power in KDC20/30/400

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2. Installation

2.1 Bluetooth Pairing

The KDC can read and store barcode data independently, but it can also be used in combination with a PC, PDA, smartphone, or tablet.

To use the KDC to read barcodes while it is paired with another device, the user should first set up a pairing between the KDC and smart device via Bluetooth. If no changes have been made in the smart device's Bluetooth settings, the smart device will always recognize the KDC that has previously been paired. However, if changes have been made, the user will need to go through the pairing process again. The user can also refer to **Chapter 4. Bluetooth** for more information about Bluetooth pairing.

Preparing for Pairing

Select a Bluetooth profile. There are two ways to set up a Bluetooth profile.

- Select and scan the needed Bluetooth profile barcode from the following barcodes.

KDC 20/100/200/250/350L/410/415 (1D)

Bluetooth Profile SPP

Bluetooth Profile HID iOS

Bluetooth Profile IPHONE

Bluetooth Profile SPP2.0

Bluetooth Profile HID normal

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KDC30/300/350C/420/425/450 (2D)

Bluetooth Profile SPP

┬MKDC6A000.

Bluetooth Profile HID iOS

┬MKDC6A001.

Bluetooth Profile IPHONE

┬MKDC6A002.

Bluetooth Profile SPP2.0

┬MKDC6A003.

Bluetooth Profile HID normal

┬MKDC6A004.

- Or, for KDCs equipped with an LCD screen (KDC100/200/250/300/350), the user can select a Bluetooth device type from the **ConnectDevice** menu as shown below.

Figure 7 - Selecting a Bluetooth device type from the KDC menu

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Pairing

Option One: Connect the KDC from a host (PC, Smartphone, Tablet)

This method is recommended for first-time users or when the user is only connecting a few KDCs.

1. Put the KDC into **Pairing** mode

- Select and scan the correct pairing barcode below for your KDC model, or

KDC 20/100/200/250/350L/410/415(1D)

KDC30/300/350C/420/425(2D)

Pairing

- Select **Pairing** from the KDC menu.

Figure 8 - Selecting Pairing mode in KDC

- For the KDC20/30, press the Scan button for three seconds in order to enter into Pairing mode. For the KDC 400, press the Up button immediately after turning the power on in order to enter into Pairing mode.

Figure 9 - Pairing mode button in KDC20/30/400

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2. On the host device, go to **Settings -> Bluetooth**, and select the KDC that needs to be paired. The KDC and host device will now communicate with each other.

3. After it has been installed, open KTSync and it will automatically find and connect to the KDC. (Refer to **2.2 KOAMTAC Installation Wizard** for more information about installing KTSync)

Option Two: Connect the host device from the KDC by scanning a Special Bluetooth MAC Address barcode

This method is recommended for advanced users or when the application or process requires the pairing of multiple KDCs to multiple host devices on a regular basis.

1. Find the **Bluetooth MAC Address** of the host device.

Figure 10 - Finding Bluetooth MAC Address

2. Create the **Bluetooth MAC Address Barcode** according to the format below.

Bluetooth MAC Address: 1234567890AB
Barcode Type (Symbology): **Code 128**
Contents: For KDC20/200/250/410/415, type **^FNC3651234567890AB**
For KDC30/300/420/425, type **SYNMCRKDC651234567890AB**
Options: **includetext parsefnc**

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3. Print the **Bluetooth MAC Address**

Note: 2D image-based barcode readers such as the KDC30, KDC300, KDC350C, and KDC420 series models can read barcodes that have been printed QR barcodes that are on a LCD screen.

Laser scanners such as the KDC20, KDC100, KDC200, KDC350L, and KDC410 series models are not designed to read barcodes from a LCD screen and will only read printed barcodes.

4. Connect the KDC to the host device by scanning the Bluetooth MAC Address Barcode.

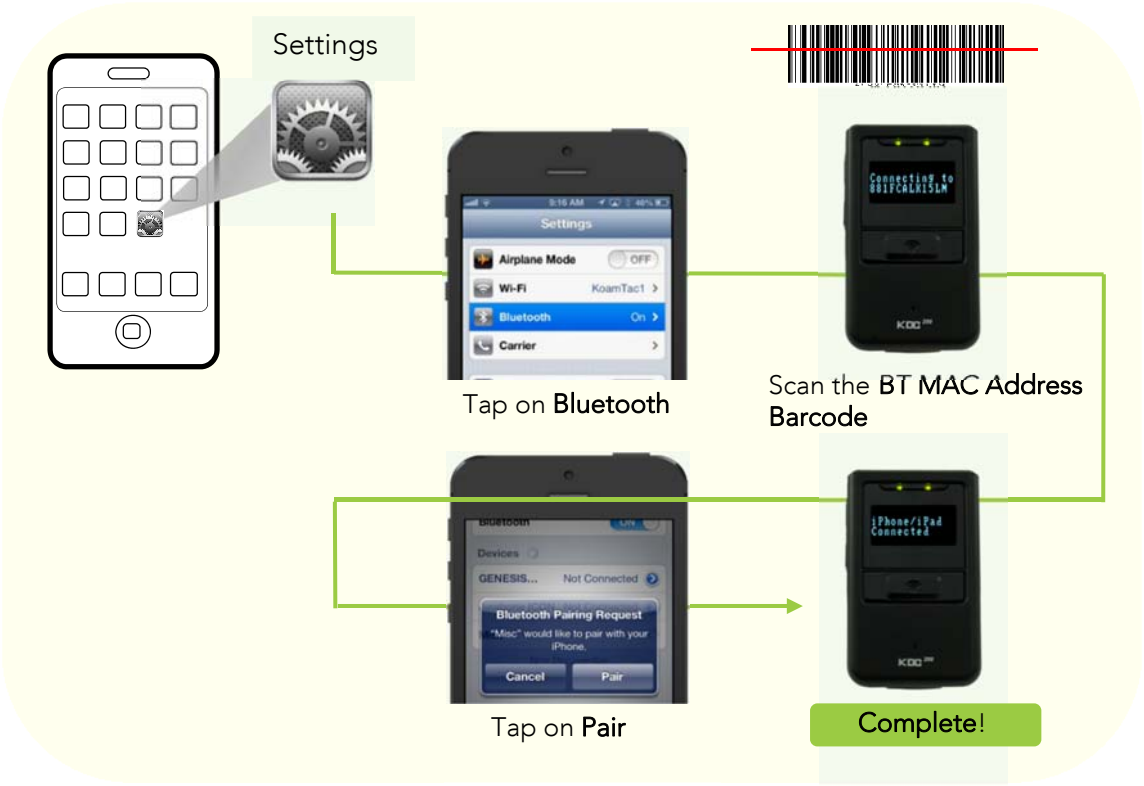

Figure 11 - Connecting KDC with a smart phone by scanning Bluetooth MAC Address Barcode

5. Open KTSync after it has been installed, and it will automatically find the KDC and connect. (Refer to **2.2 KOAMTAC Installation Wizard** for more information about installing KTSync)

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2.2 KOAMTAC Installation Wizard

Windows 7 and 8

WARNING: DO NOT CONNECT KDC TO USB PORT PRIOR TO DRIVER INSTALLATION

1. Insert KOAMTAC Installation CD into the computer's CD drive.
2. Click **Start** icon then **My Computer** icon. A list of devices on the computer will be displayed, including the disk drive containing the KOAMTAC Installation CD.
3. Click on the KOAMTAC Installation CD icon, then the Setup directory. Click on the PC_Setup.exe file, which will execute the KTSync Setup Wizard.

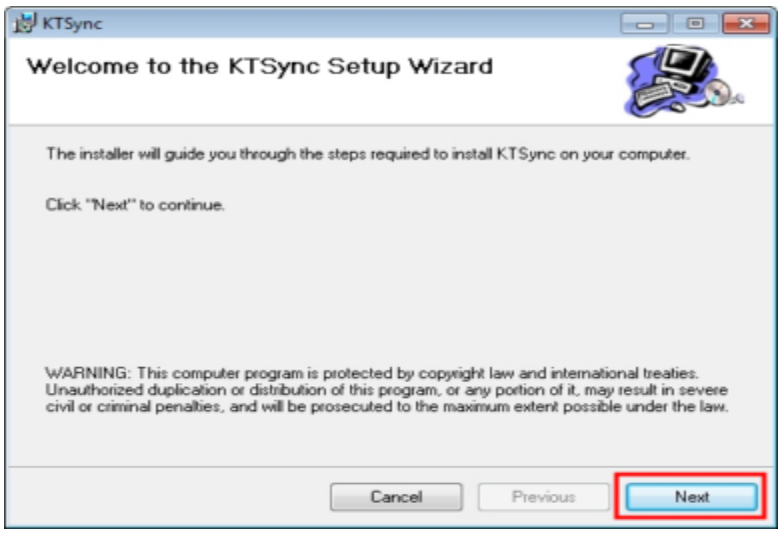
Note

- If the KTSync Setup Wizard locates an older version of KTSync on the computer, the user will be prompted to remove the older program before installing the new version. Select Remove KTSync then click Finish. When removal is complete, click Close. Go to Step 2 to run KTSync Setup Wizard.
- If there are any problems, please refer to 2.3 Manual Installation.

KTSync Setup Wizard

To install KTSync, follow the steps shown in the images below.

1. In the KTSync Setup Wizard window, click **Next**.



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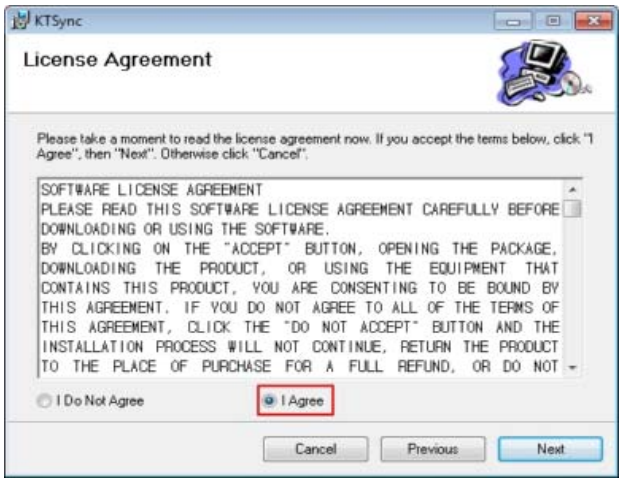
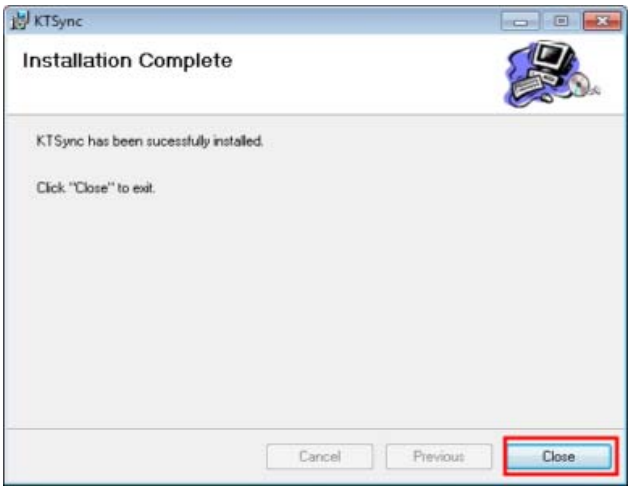
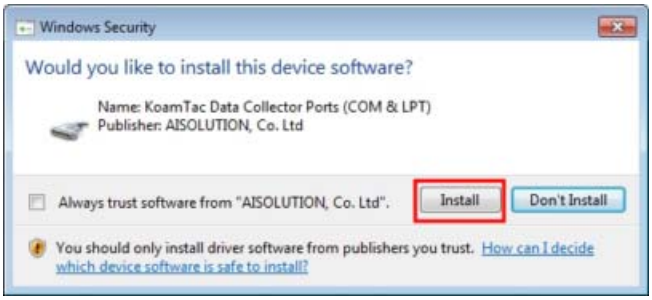
2. In the License Agreement window, select "I Agree" and click **Next**.



3. In the KTSync Installation Complete window, click **Close** and wait for the Device Driver Installation Wizard.



4. In the Windows Security window, click **Install** to complete installation.



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Connect KDC to Computer

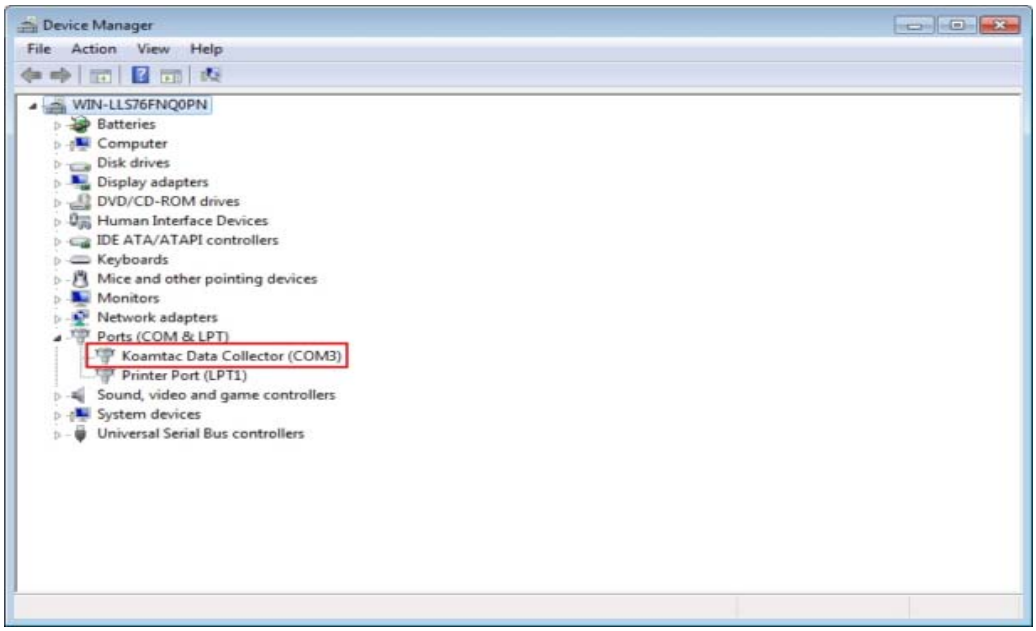
Using the USB cable included with the KDC or built-in swing out US connector, follow the directions below.

1. Connect KDC to PC.

2. Wait until the computer beeps and/or displays the message *Found New Hardware.*

Verify COM Port Address

- The installed COM Port can be verified in Device Manager.



Android

- Download and install aKTSync from the Android Play Store.

https://play.google.com/store/apps/details?id=com.koamtac.ktsync&hl

Blackberry

- Download and install bKTSync from the Blackberry App World.

http://appworld.blackberry.com/webstore/content/16861?lang=en

iPad/iPhone/iPod touch

- Download and install iKTSync from the Apple App Store.

http://itunes.apple.com/us/app/ktsync/id372916602?mt=8

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2.3 Manual Installation

Windows 7/8

1. Insert the KOAMTAC Installation CD into the computer's disk drive.
2. Create a directory named KOAMTAC on the computer.
3. Copy **XP.Vista.7 directory** from the KOAMTAC CD to the KoamTac directory. **XP.Vista.7 directory** contains KTSync® programs for Microsoft® Windows XP, Vista, Windows 7, and user manuals.
4. Connect the KDC cable to the ultra mini USB connector on the KDC.
5. Connect the KDC cable to the Type A USB connector on the computer. Wait until the computer beeps and/or displays the message *New Hardware Found*. The user will be prompted to search for a device driver for the KDC.
6. Browse and select the ***KTReader.inf*** file from the KoamTac directory (created in Step 2). Follow screen prompts to continue with the device driver installation.

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3. Operating your KDC

3.1 Getting Started

Attach Lanyard/Hand Strap to KDC

To prevent possible damage to the KDC, we STRONGLY recommend wearing it around the neck or hand, using the included Lanyard/Hand Strap. In addition, the user should not swing the KDC by its Lanyard/Hand Strap. Impact with another object may cause the KDC to malfunction or become damaged.

To attach the Lanyard:

	KDC20/30	KDC100/200/300/350/400
1 Fit the thin end of the Lanyard through the pillar of the KDC.		
2 Guide the thick end of strap through the thin loop.		
3 Pull the strap tight to secure.		

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Charge KDC Battery

Prior to using the KDC, the user should charge its battery by following the below instructions.

1. Connect the KDC cable to the mini USB connector on the KDC.
2. Connect the KDC cable to the Type A USB connector on the computer.
3. The KDC battery will begin charging. Within a few minutes, the two small LEDs on the front panel will illuminate orange. When the battery is fully charged, the LEDs will illuminate green.

KDC100	KDC20/200	KDC30/250/300	KDC350	KDC400
2 Hours	2 Hours	4 Hours	5 Hours	5 Hours

Table 2 - Number of hours required to fully charge a KDC Battery

Configure KDC

The KDC is designed to meet the data collection requirements of many different industries in a variety of dynamic situations. To deliver the best performance in these diverse environments, the KDC is designed to be configured quickly and easily.

However, to perform at its optimum level, the KDC must be configured properly. Until the user is familiar with the KDC configuration settings, it is recommended that the user DOES NOT modify the KDC settings. The KDC can be configured by using three different methods, which are explained in Section 3.3 – KDC Menus, Chapter 5 – Synchronization, and Appendix C/D – Special Barcodes.

CONFIGURATION METHODS FOR THE KDC100/200/250/300/350

- KDC Menu
- KTSync® Software
- Special Barcodes

Figure 12 - Location of KDC Menu and use of buttons (KDC100/200/250/300)

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Press the **Menu** **Button** to access the KDC menu. Move the menu bar up and down by pressing the ⟨^ and ⌄⟩ Buttons, and configure the KDC by pressing the SCAN Button to select a menu.

Figure 13 - Location and use of buttons on a keypad (KDC350)

CONFIGURATION METHODS FOR THE KDC20/30/400

- KTSync® Software
- Special Barcodes

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3.2 Basics

Read barcodes

To read a barcode using the KDC, simply point the KDC at a barcode and press the scan button. Be sure to point the scan engine window at the barcode, not at the user's face, and make sure to position the light beam on the barcode.

If a barcode has been successfully scanned, the user will hear one short beep and the LEDs will illuminate green. The scanned barcode data will be displayed on the KDC screen, along with the scan time and battery level. *Depending on the configuration of the KDC, other information may also be displayed.*

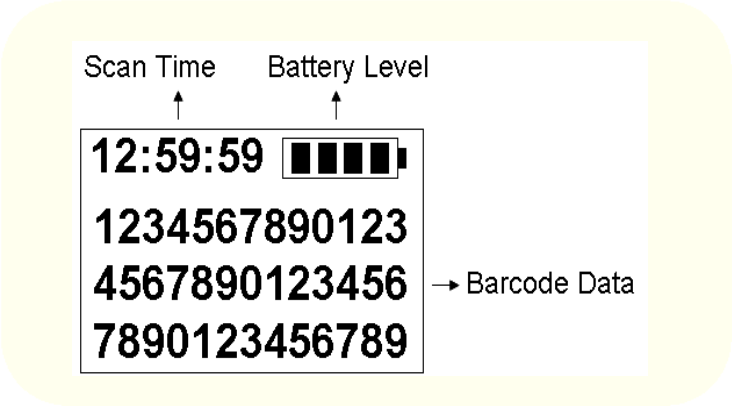

Figure 14 - KDC Display

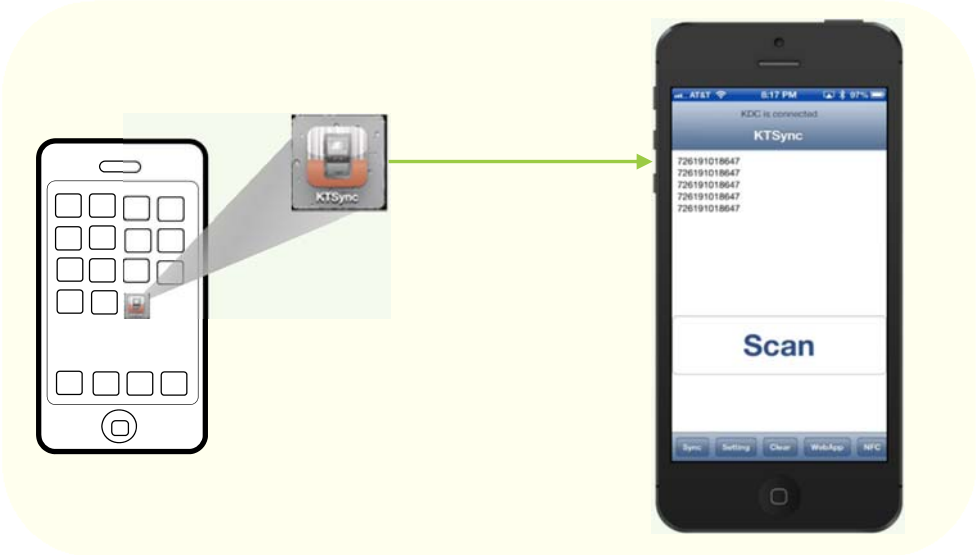

Figure 15 - Scanning barcodes using KTSync

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If scanning was unsuccessful, the user will hear two short beeps, the LEDs will illuminate red, and the message *Failed reading...* will display. If this is the case, the user should point the KDC at the barcode and press the scan button while trying the following suggestions:

- Modify the angle of the KDC in relation to the barcode, making the angle more wide or narrow as needed.
- Modify the distance between the barcode and the KDC, moving closer or further away as needed.
- Check the option settings defined in the KDC menu section and change options as needed.
- Check to see that the barcode's width does not exceed the light beam's width, and vice versa.

Read barcodes with GPS coordinates (KDC350G)

The KDC350G can add GPS coordinates after the barcode data. To do so, the user can follow the below instructions.

Note Because of the characteristics of GPS, this function is only available when outdoors.

1. Go to **GPS Power** in GPS Menu and select **Enable**.
2. Check to see if the KDC is successfully acquiring GPS data by selecting **Acquire Test** in GPS Menu.

   When the user selects the Acquire Test, an *'Acquiring'* message will appear on the screen. If this is the first test, check to make sure the 'Acquired' message appears within 90 seconds of acquiring GPS signal.
3. Go to **System Config** in the KDC Menu and select **GPS data** in **Display Format**.
4. After finishing the configuration, scan a barcode as explained in **3.2.1 Reading Barcodes.**

   When the user has successfully scanned a barocde, the barcode data and GPS coordinate will appear on the KDC screen.

   For more information, refer to 3.3 Menu - **GPS Config (350G)**.

Read NFC Tag (KDC350N/400N)

1. Enable the **NFC Power** option in the **NFC Config** menu.

2. Touch the NFC tag to the back of the KDC350N/450N case, and make sure the tag and case are within 5cm of each other.

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Figure 16 - Location for reading NFC Tag

3. The KDC will show the NFC tag UID and the user will hear a short beep if it has been read successfully.

4. The KDC350N/450N can process "Mifare Ultra Light" and "Mifare Ultra Light C" data only. Other types of tags should be processed in the host application.

Read HF RFID Tag (KDC450)

The KDC450 can virtually read any ISO/IEC 14443 A or B compliant smartcards, or ISO/IEC 15693 compliant HF RFID tags.

To read a HF RFID tag, touch the RFID card to the back of the KDC450 case, and make sure the tag and case are within 5cm of each other. The user will hear a short beep if it has been read successfully.

Input data by using a keypad (KDC350)

The KDC350 allows users to input barcode data by using its keypad. The user can switch between Num mode and Abc mode by using the Mode button.

To switch between uppercase and lowercase letters, the user can press the Shift button while in Abc mode. To save the data input, press the Enter or SCAN button. To cancel the data input, press the Menu button. Refer to 1.4 Input data by using a keypad (KDC350) for more detailed information about the process.

Synchronizing data to the host device

Use the KTSync® program to synchronize barcode data from the KDC to the host device. Please refer to Chapter 6. Synchronization for details.

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3.3 KDC Menu

Top Menu	Sub Menu	Options	KDC20	KDC100	KDC200	KDC250	KDC300	KDC350L (opticon)	KDC350L (N4303/SE960)	KDC350C
KDC Mode	Normal		Default	Default	Default	Default	Default	Default	Default	Default
	Application		N/A	Custom Application	Custom Application	Custom Application	Custom Application	Custom Application	Custom Application	Custom Application
View Data	View/Delete		N/A	View/Delete Data	View/Delete Data	View/Delete Data	View/Delete Data	View/Delete Data	View/Delete Data	View/Delete Data
Set Barcodes (20/100/200/250/350L/KDC410/KDC415)	EAN13	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	EAN8	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	UPCA	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	UPCE	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	CODE39	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	ITF14	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	CODE128	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	I2of5	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	CODABAR	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	GS1-128	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	CODE93	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	CODE35	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	Bookland EAN	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	EAN13withAddon	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	EAN8withAddon	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	UPCAwithAddon	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	UPCEwithAddon	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
Set Barcodes (300/350C/420/425/450)	1D Symbology	Codabar	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code 11	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code 32	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code 39	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code 93	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code 128	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		EAN-8	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		EAN-13	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		GS1 Composit	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		I2of5	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Matrix 2of5	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		MSI	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Plessey	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		PosiCode	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		GS1 Omni	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		GS1 Limited	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		GS1 Expanded	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		S2of5 Ind	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		S2of5 IATA	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		TCL39	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Telepen	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Trioptic	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		UPCA	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		UPCE0	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		UPCE1	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
	2D	AztecCode	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled

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	Symbology									
		AztecRunes	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		CodablockF	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code16K	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Code49	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		DataMatrix	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		MaxiCode	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		MicroPDF	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		PDF417	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		QRCode	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		HanXin Code	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
	Postal Codes	Postnet	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		PlanetCode	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		UK Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Canada Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Kix Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Australia Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Japan Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		China Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Korea Post	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
	OCR	OCR Off	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		OCR A	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		OCR B	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		OCR USC	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		OCR MICR	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		OCR SEMI	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
Barcode Options (20/100 /200/25 0 /350L/4 10/415)	CodaBar_ NoStartSt opChars	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	UPCE_as_ UPCA	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	EAN8_as_ EAN13	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	UPCE_as_ EAN13	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	ReturnCh eckDigit	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	VerifyChe ckDigit	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	UPCA_as_ EAN13	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	I2of5_Ver ifyCheck Digit	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	Code39_ VerifyChe ckDigit	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	I2of5_Ret urnCheck Digit	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	Code39_ ReturnCh eckDigit	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled	Disabled	N/A
	UPCE_Ret urnCheck Digit	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	UPCA_Re turnChec kDigit	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	EAN8_Ret urnCheck	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A

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	Digit									
	EAN13_ReturnCheckDigit	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
Barcode Options (300/350C/420/425/450)	Codabar	Tx StartStop(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx)	N/A	N/A	N/A	N/A	DoNotVerify	N/A	N/A	DoNotVerify
		Concatenate(Disabled/Enabled/Required)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
	Code39	Tx StartStop(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx)	N/A	N/A	N/A	N/A	DoNotVerify	N/A	N/A	DoNotVerify
		Append(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Full ASCII(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	I2of5	Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx)	N/A	N/A	N/A	N/A	DoNotVerify	N/A	N/A	DoNotVerify
	Code11	Check Digit(2 digits/1 digit)	N/A	N/A	N/A	N/A	2 digits	N/A	N/A	2 digits
	Code128	Concatenate(Disabled/Enabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	Telepen	Output(Original/AIM)	N/A	N/A	N/A	N/A	AIM	N/A	N/A	AIM
	UPCA	VerifyChkDgt(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		NumberSys(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Coupon Code(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
	UPCE	Expand(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		Check Digit(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		NumberSys(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled

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		2DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	EAN-13	VerifyChkDgt(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		ISBN Trans.(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	EAN-8	VerifyChkDgt(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	N/A	N/A	Enabled	N/A	N/A	Enabled
	MSI	Tx CheckChar(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	PosiCode	A and B/A&B LimitedA/A&B LimitedB	N/A	N/A	N/A	N/A	A&B LimitedB	N/A	N/A	A&B LimitedB
	GS1	UPCEAN Ver.(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
		GS1 Emulation(No Emulate/GS1 128 Emul/GS1 Emulate)	N/A	N/A	N/A	N/A	No Emulate	N/A	N/A	No Emulate
	PostNet	Tx CheckChar(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	PlanetCode	Tx CheckChar(Enabled/Disabled)	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
Scan Options	Scan Angle	Narrow/Wide	Wide	Wide	Wide	Wide	N/A	Wide	N/A	N/A
	Filter	Normal/High	Normal	Normal	Normal	Normal	N/A	Normal	N/A	N/A
	Time Out	.5 seconds to 10 seconds	2 second(s)	2 second(s)	2 second(s)	2 second(s)	2 second(s)	2 second(s)	2 second(s)	2 second(s)
	Min. Barcode Length	2 to 36 characters	4 chars	4 chars	4 chars	4 chars	N/A	4 chars	4 chars	N/A
	Min. Barcode Length	2 to 48 characters	N/A	N/A	N/A	N/A	4 chars	N/A	N/A	4 chars
	Security Level	1 to 4 level	2 level	2 level	2 level	2 level	N/A	2 level	2 level	N/A
	Image	Enabled/Disabled	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled

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	Capture									
	Auto Trigger	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Reread Delay	Continuous, Short, Medium, Long, Extra Long	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	Finger Trigger	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	Enabled	Enabled	N/A
	Partial Display	Start Position	1	1	1	1	1	1	1	1
		No. of Char(s)	0 chars	0 chars	0 chars	0 chars	0 chars	0 chars	0 chars	0 chars
		Action	Select	Select	Select	Select	Select	Select	Select	Select
Data Process	Wedge / Store	Wedge Only								
		Wedge & Store Always	Default	Default	Default	Default	Default	Default	Default	Default
		Store Only								
		Save if Sent								
		Save if Not Sent								
	Data Format	Barcode only	Default	Default	Default	Default	Default	Default	Default	Default
		Packet Data								
	Data Editor/Prefix	Delete	Delete	Delete	Delete	Delete	Delete	Delete	Delete	Delete
	Data Editor/Suffix	Delete	Delete	Delete	Delete	Delete	Delete	Delete	Delete	Delete
	Data Editor/AIM ID	None/In Prefix/In Suffix	None	None	None	None	None	None	None	None
	Data Editor/Partial Data	Start Position	1	1	1	1	1	1	1	1
		No. of Char(s)	0 chars	0 chars	0 chars	0 chars	0 chars	0 chars	0 chars	0 chars
		Action	Select	Select	Select	Select	Select	Select	Select	Select
	Handshake	Enable/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Terminator	None, CR, LF, CR+LF, Tab, Right Arrow, Left Arrow,Down Arrow, Up Arrow	CR+LF	CR+LF	CR+LF	CR+LF	CR+LF	CR+LF	CR+LF	CR+LF
	Chk Duplicate	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Enter Key	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	Disabled	Disabled	Disabled
BT Config	Connect Device (Non Mfi mode)	SPP	Default	N/A	Default	Default	Default	Default	Default	Default
		HID iOS		N/A						
		SPP2.0		N/A						
		HID normal		N/A						
	Connect Device (Mfi mode)	SPP		N/A						
		iPhone	Default	N/A	Default	Default	Default	Default	Default	Default
	Auto Connect	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Reconnect	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled

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	Power On									
	Auto Power On/Power On Time	disabled, 1sec to 10second(s)	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power Off	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power Off/Beep Warning	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power Off/Power Off Time	1 to 30 minutes	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	PowerOff Msg	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	MAC Address	12 Characters *Bluetooth* MAC Address		N/A						
	BT FW Version	v1.2.xrt Bluetooth Firmware Version		N/A						
	Wakeup Nulls	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Connect Alert	Enabled/Disabled	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	BT Toggle	Enabled/Disabled	Enabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	DisconnectBtn	Enabled/Disabled	Enabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	HID AutoLock	disabledd,1,2,3,4,5,10, 15 minutes	1 minutes	N/A	1 minutes	1 minutes	1 minutes	1 minutes	1 minutes	1 minutes
	HID Keyboard	US,German,French,Italian,Spanish	US	N/A	US	US	US	US	US	US
	HID Delay/Initial	Disabled, 1,2,3,5,10 secs	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	HID Delay/Inter char	Disabled,10, 20, 30, 50, 100msec	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	HID Ctrl Char	Disabled, Alt+Numpad, ^+Character, Replace to |	Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
BT Service	Power	Enabled/Disabled	Enabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Pairing	Pairing neighboring Bluetooth devices		N/A						
	Discovering	Discovering neighboring *Bluetooth* devices		N/A						
	Connecting to	View Connect to *Bluetooth* device		N/A						
	HID Sync			N/A						
USB Config-USB Serial Mode (M model)	USB Mode	USB Serial/USB Disk	USB Serial	USB Serial	USB Serial	USB Serial	USB Serial	USB Serial	USB Serial	USB Serial

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USB Config-USB Disk Mode (M model)	USB Mode	USB Serial/USB Disk	N/A	USB Disk	USB Disk	USB Disk	USB Disk	USB Disk	USB Disk	USB Disk
	Disk Format	Format KDC USB Disk	N/A							
	Data Format	Data,DataTime, DataType,DataTimeType	N/A	Data	Data	Data	Data	Data	Data	Data
NFC Config (N model)	NFC Power	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	Enabled	Enabled	Enabled
	Data Format	Barcode only/Packet Data	N/A	N/A	N/A	N/A	N/A	Packet Data	Packet Data	Packet Data
	UID Only	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	Disabled	Disabled	Disabled
GPS Config (G model)	GPS Power	Enabled/Disabled	N/A	N/A	N/A	Disabled	N/A	Disabled	Disabled	Disabled
	Power Mode	Normal/Power Save	N/A	N/A	N/A	Normal	N/A	Normal	Normal	Normal
	Bypass Data	Enabled/Disabled	N/A	N/A	N/A	Disabled	N/A	Disabled	Disabled	Disabled
	Acqurie Test		N/A	N/A	N/A		N/A			
	Reset GPS		N/A	N/A	N/A		N/A			
System Config	Memory Size(3.0 only)	0.5/3.5, 1/3, 2/2, 3/1, 4/0	N/A	0.5M/3.5M	0.5M/3.5M	0.5M/3.5M	0.5M/3.5M	0.5M/3.5M	0.5M/3.5M	0.5M/3.5M
	Memory Status	No. of Stored Barcodes								
		Free Memory Available								
	Reset Memory	Memory(Empties Data)								
		Application Memory								
		BT Registry(KDC100 Not use)								
	Auto Erase	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Sleep Timeout	Disabled, 1sec to 10minute(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)
	Date / Time	YYYY:MM:DD &								
		HH:MM:SS								
	Battery	% of Battery Charge Available								
	Version	Firmware Version & Serial No.								
	Button Lock	Enabled/Disabled	N/A	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Beep Alert /Beep Sound	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Beep Alert /Power On Beep	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Beep	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled

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	Alert /Beep On Connect									
	Beep Alert /Beep On Scan	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Beep Volume	Low/High	Low	Low	Low	Low	Low	Low	Low	Low
	Mfi (i-chip installed)	Enabled/Disabled	Enabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Auto Exit	Enabled/Disabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Port Status	Enabled/Disabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Display Format	Time & Battery / Type & Time / Type & Battery / Memory Status / GPS Data(KDC250 only)/Barcode Only	N/A	Time & Battery	Time & Battery	Time & Battery	Time & Battery	Time & Battery	Time & Battery	Time & Battery
	Menu Barcode	Enabled/Disabled	N/A	N/A	N/A	N/A	Disabled	N/A	N/A	Disabled
	Scrolling	Enabled/Disabled	N/A	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Brightness	1 to 15 level(8 level)	N/A	8 level	8 level	8 level	8 level	8 level	8 level	8 level
	Factory Default	Restores Default Settings								
MSR Config	Data Format	MSR Data Only	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Packet Data	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Use Track1		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Use Track2		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Use Track3		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Beep on error reading	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Encrypt MSR Data	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	AES Key Length	128bit/192bit/256bit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Card Type	ISO/OTHER 1/AAMVA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Track Separator	None/Space/Comma/ Semicolon/CR/LF/CR &LF/Tab	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Attach Start/End Sentinel		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Partial Data Start Position		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Partial Data Length		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Partial Data Action	Erase/Select	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Top Menu	Sub Menu	Options	KDC410	KDC415	KDC420	KDC425	KDC430	KDC450
KDC Mode	Normal		Default	Default	Default	Default	Default	Default
	Application		N/A	N/A	N/A	N/A	N/A	N/A
View Data	View/Delete		N/A	N/A	N/A	N/A	N/A	N/A
Set Barcodes (20/100/200/250/350L/KDC410/KDC415)	EAN13	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	EAN8	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	UPCA	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	UPCE	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	CODE39	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	ITF14	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	CODE128	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	I2of5	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	CODABAR	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	GS1-128	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	CODE93	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	CODE35	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	BooklandEAN	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	EAN13withAddon	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	EAN8withAddon	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	UPCAwithAddon	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	UPCEwithAddon	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
Set Barcodes (300/350C/420/425/450)	1D Symbology	Codabar	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code 11	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code 32	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code 39	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code 93	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code 128	N/A	N/A	Enabled	Enabled	N/A	Enabled
		EAN-8	N/A	N/A	Enabled	Enabled	N/A	Enabled
		EAN-13	N/A	N/A	Enabled	Enabled	N/A	Enabled
		GS1 Composit	N/A	N/A	Enabled	Enabled	N/A	Enabled
		I2of5	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Matrix 2of5	N/A	N/A	Enabled	Enabled	N/A	Enabled
		MSI	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Plessey	N/A	N/A	Enabled	Enabled	N/A	Enabled
		PosiCode	N/A	N/A	Enabled	Enabled	N/A	Enabled
		GS1 Omni	N/A	N/A	Enabled	Enabled	N/A	Enabled
		GS1 Limited	N/A	N/A	Enabled	Enabled	N/A	Enabled
		GS1 Expanded	N/A	N/A	Enabled	Enabled	N/A	Enabled
		S2of5 Ind	N/A	N/A	Enabled	Enabled	N/A	Enabled
		S2of5 IATA	N/A	N/A	Enabled	Enabled	N/A	Enabled
		TCL39	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Telepen	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Trioptic	N/A	N/A	Enabled	Enabled	N/A	Enabled
		UPCA	N/A	N/A	Enabled	Enabled	N/A	Enabled

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		UPCE0	N/A	N/A	Enabled	Enabled	N/A	Enabled
		UPCE1	N/A	N/A	Enabled	Enabled	N/A	Enabled
	2D Symbology	AztecCode	N/A	N/A	Enabled	Enabled	N/A	Enabled
		AztecRunes	N/A	N/A	Enabled	Enabled	N/A	Enabled
		CodablockF	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code16K	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Code49	N/A	N/A	Enabled	Enabled	N/A	Enabled
		DataMatrix	N/A	N/A	Enabled	Enabled	N/A	Enabled
		MaxiCode	N/A	N/A	Enabled	Enabled	N/A	Enabled
		MicroPDF	N/A	N/A	Enabled	Enabled	N/A	Enabled
		PDF417	N/A	N/A	Enabled	Enabled	N/A	Enabled
		QRCode	N/A	N/A	Enabled	Enabled	N/A	Enabled
		HanXin Code	N/A	N/A	Enabled	Enabled	N/A	Enabled
	Postal Codes	Postnet	N/A	N/A	Enabled	Enabled	N/A	Enabled
		PlanetCode	N/A	N/A	Enabled	Enabled	N/A	Enabled
		UK Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Canada Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Kix Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Australia Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Japan Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
		China Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Korea Post	N/A	N/A	Enabled	Enabled	N/A	Enabled
	OCR	OCR Off	N/A	N/A	Enabled	Enable	N/A	Enable
		OCR A	N/A	N/A	Disabled	Disabled	N/A	Disabled
		OCR B	N/A	N/A	Disabled	Disabled	N/A	Disabled
		OCR USC	N/A	N/A	Disabled	Disabled	N/A	Disabled
		OCR MICR	N/A	N/A	Disabled	Disabled	N/A	Disabled
		OCR SEMI	N/A	N/A	Disabled	Disabled	N/A	Disabled
Barcode Options (20/100 /200/250 /350L/410/415)	CodaBar_NoStartStopChars	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	UPCE_as_UPCA	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	EAN8_as_EAN13	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	UPCE_as_EAN13	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	ReturnCheckDigit	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	VerifyCheckDigit	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	UPCA_as_EAN13	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	I2of5_VerifyCheckDigit	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	Code39_VerifyCheckDigit	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	I2of5_ReturnCheckDigit	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	Code39_ReturnCheckDigit	Enabled/Disabled	Disabled	Disabled	N/A	N/A	N/A	N/A
	UPCE_ReturnCheckDigit	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	UPCA_ReturnCheckDigit	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	EAN8_ReturnCheckDigit	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
	EAN13_ReturnCheckDigit	Enabled/Disabled	Enabled	Enabled	N/A	N/A	N/A	N/A
Barcode Options (300/350/420/425/450	Codabar	Tx StartStop(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Check Digit(DoNotVeri	N/A	N/A	DoNotVerify	DoNotVerify	N/A	DoNotVerify

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)		fy/VerfyDONotTX/VerifyDoTx)						
		Concatenate(Disabled/Enabled/Required)	N/A	N/A	Enabled	Enabled	N/A	Enabled
	Code39	Tx StartStop(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx)	N/A	N/A	DoNotVerify	DoNotVerify	N/A	DoNotVerify
		Append(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Full ASCII(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
	I2of5	Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx)	N/A	N/A	DoNotVerify	DoNotVerify	N/A	DoNotVerify
	Code11	Check Digit(2 digits/1 digit)	N/A	N/A	2 digits	2 digits	N/A	2 digits
	Code128	Concatenate(Disabled/Enabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
	Telepen	Output(Original/AIM)	N/A	N/A	AIM	AIM	N/A	AIM
	UPCA	VerifyChkDgt(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		NumberSys(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Coupon Code(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
	UPCE	Expand(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		Check Digit(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		NumberSys(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		5DgtAddenda(Enabled/Disabled	N/A	N/A	Disabled	Disabled	N/A	Disabled

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		)						
	EAN-13	VerifyChkDgt(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		ISBN Trans.(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
	EAN-8	VerifyChkDgt(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
		2DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		5DgtAddenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Req. Addenda(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		Sep. Addenda(Enabled/Disabled)	N/A	N/A	Enabled	Enabled	N/A	Enabled
	MSI	Tx CheckChar(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
	PosiCode	A and B/A&B LimitedA/A&B LimitedB	N/A	N/A	A&B LimitedB	A&B LimitedB	N/A	A&B LimitedB
	GS1	UPCEAN Ver.(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
		GS1 Emulation(No Emulate/GS1 128 Emul/GS1 Emulate)	N/A	N/A	No Emulate	No Emulate	N/A	No Emulate
	PostNet	Tx CheckChar(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
	PlanetCode	Tx CheckChar(Enabled/Disabled)	N/A	N/A	Disabled	Disabled	N/A	Disabled
Scan Options	Scan Angle	Narrow/Wide	Wide	Wide	N/A	N/A	N/A	N/A
	Filter	Normal/High	Normal	Normal	N/A	N/A	N/A	N/A
	Time Out	.5 seconds to 10 seconds	2 second(s)	2 second(s)	2 second(s)	2 second(s)	N/A	2 second(s)
	Min. Barcode Length	2 to 36 characters	4 chars	4 chars	N/A	N/A	N/A	N/A
	Min. Barcode Length	2 to 48 characters	N/A	N/A	4 chars	4 chars	N/A	4 chars
	Security Level	1 to 4 level	2 level	2 level	N/A	N/A	N/A	N/A
	Image Capture	Enabled/Disabled	N/A	N/A	Disabled	Disabled	N/A	Disabled

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	Auto Trigger	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled
	Reread Delay	Continuous, Short, Medium, Long, Extra Long	Medium	Medium	Medium	Medium	N/A	Medium
	Finger Trigger	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Partial Display	Start Position	N/A	N/A	N/A	N/A	N/A	N/A
		No. of Char(s)	N/A	N/A	N/A	N/A	N/A	N/A
		Action	N/A	N/A	N/A	N/A	N/A	N/A
Data Process	Wedge / Store	Wedge Only						
		Wedge & Store Always	Default	Default	Default	Default	Default	Default
		Store Only						
		Save if Sent						
		Save if Not Sent						
	Data Format	Barcode only	Default	Default	Default	Default	N/A	Default
		Packet Data						
	Data Editor/Prefix	Delete	Delete	Delete	Delete	Delete	N/A	Delete
	Data Editor/Suffix	Delete	Delete	Delete	Delete	Delete	N/A	Delete
	Data Editor/AIM ID	None/In Prefix/In Suffix	None	None	None	None	N/A	None
	Data Editor/Partial Data	Start Position	1	1	1	1	N/A	1
		No. of Char(s)	0 chars	0 chars	0 chars	0 chars	N/A	0 chars
		Action	Select	Select	Select	Select	N/A	Select
	Handshake	Enable/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled
	Terminator	None, CR, LF, CR+LF, Tab, Right Arrow, Left Arrow,Down Arrow, Up Arrow	CR+LF	CR+LF	CR+LF	CR+LF	CR+LF	CR+LF
	Chk Duplicate	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	Disabled
	Enter Key	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
BT Config	ConnectDevice (Non Mfi mode)	SPP	Default	Default	Default	Default	Default	Default
		HID iOS						
		SPP2.0						
		HID normal						
	ConnectDevice (Mfi mode)	SPP						
		iPhone	Default	Default	Default	Default	Default	Default
	Auto Connect	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Reconnect	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power On	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power On/Power On Time	disabled, 1sec to 10second(s)	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power Off	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Auto Power Off/Beep	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled

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	Warning							
	Auto Power Off/Power Off Time	1 to 30 minutes	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	PowerOff Msg	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	MAC Address	12 Characters *Bluetooth* MAC Address						
	BT FW Version	v1.2.xrt Bluetooth Firmware Version						
	Wakeup Nulls	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	Connect Alert	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	BT Toggle	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	DisconnectBtn	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	HID AutoLock	disabledd,1,2,3,4,5,10,15 minutes	1 minutes	1 minutes	1 minutes	1 minutes	1 minutes	1 minutes
	HID Keyboard	US,German,French,Italian,Spanish	US	US	US	US	US	US
	HID Delay/Initial	Disabled, 1,2,3,5,10 secs	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	HID Delay/Interchar	Disabled,10, 20, 30, 50, 100msec	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
	HID Ctrl Char	Disabled, Alt+Numpad, ^+Character, Replace to |	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
BT Service	Power	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Pairing	Pairing neighboring Bluetooth devices						
	Discovering	Discovering neighboring *Bluetooth* devices						
	Connecting to	View Connect to *Bluetooth* device						
	HID Sync							
USB Config-USB Serial Mode (M model)	USB Mode	USB Serial/USB Disk	USB Serial	USB Serial	USB Serial	USB Serial	USB Serial	USB Serial
USB Config-USB Disk Mode (M model)	USB Mode	USB Serial/USB Disk	N/A	N/A	N/A	N/A	N/A	N/A
	Disk Format	Format KDC USB Disk	N/A	N/A	N/A	N/A	N/A	N/A
	Data Format	Data,DataTime, DataType,DataTimeType	N/A	N/A	N/A	N/A	N/A	N/A
NFC Config (N model)	NFC Power	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	N/A	N/A
	Data Format	Barcode only/Packet Data	Packet Data	Packet Data	Packet Data	Packet Data	N/A	N/A
	UID Only	Enabled/Disabled	Disabled	Disabled	Disabled	Disabled	N/A	N/A
GPS Config (G model)	GPS Power	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Power Mode	Normal/Power Save	N/A	N/A	N/A	N/A	N/A	N/A

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	Bypass Data	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Acqurie Test		N/A	N/A	N/A	N/A	N/A	N/A
	Reset GPS		N/A	N/A	N/A	N/A	N/A	N/A
System Config	Memory Size(3.0 only)	0.5/3.5, 1/3, 2/2, 3/1, 4/0	N/A	N/A	N/A	N/A	N/A	N/A
	Memory Status	No. of Stored Barcodes						
		Free Memory Available						
	Reset Memory	Memory(Empties Data)						
		Application Memory	N/A	N/A	N/A	N/A	N/A	N/A
		BT Registry(KDC100 Not use)	N/A	N/A	N/A	N/A	N/A	N/A
	Auto Erase	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Sleep Timeout	Disabled, 1sec to 10minute(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)	5 second(s)
	Date / Time	YYYY:MM:DD &						
		HH:MM:SS						
	Battery	% of Battery Charge Available						
	Version	Firmware Version & Serial No.						
	Button Lock	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Beep Alert /Beep Sound	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Beep Alert /Power On Beep	Enabled/Disabled						
	Beep Alert /Beep On Connect	Enabled/Disabled						
	Beep Alert /Beep On Scan	Enabled/Disabled						
	Beep Volume	Low/High	Low	Low	Low	Low	Low	Low
	Mfi (i-chip installed)	Enabled/Disabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Auto Exit	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Port Status	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Display Format	Time & Battery / Type & Time / Type & Battery / Memory Status / GPS Data(KDC250 only)/Barcode Only	N/A	N/A	N/A	N/A	N/A	N/A
	Menu Barcode	Enabled/Disabled	N/A	N/A	Disabled	Disabled	N/A	Disabled
	Scrolling	Enabled/Disabled	N/A	N/A	N/A	N/A	N/A	N/A
	Brightness	1 to 15 level(8 level)	N/A	N/A	N/A	N/A	N/A	N/A
	Factory Default	Restores Default Settings						
MSR Config	Data Format	MSR Data Only	N/A	Default	N/A	Default	Default	N/A
		Packet Data	N/A		N/A			N/A
	Use Track1		N/A	Yes	N/A	Yes	Yes	N/A
	Use Track2		N/A	Yes	N/A	Yes	Yes	N/A
	Use Track3		N/A	Yes	N/A	Yes	Yes	N/A
	Beep on error	Enabled/Disable	N/A	Disabled	N/A	Disabled	Disabled	N/A

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	reading	d						
	Encrypt MSR Data	Enabled/Disabled	N/A	Disabled	N/A	Didabled	Disabled	N/A
	AES Key Length	128bit/192bit/256bit	N/A	128bit	N/A	128bit	N/A	N/A
	Card Type	ISO/OTHER 1/AAMVA	N/A	ISO	N/A	ISO	ISO	N/A
	Track Separator	None/Space/Comma/Semicolon/CR/LF/CR&LF/Tab	N/A	None	N/A	None	None	N/A
	Attach Start/End Sentinel		N/A	Enabled	N/A	Enabled	Enabled	N/A
	Partial Data Start Position		N/A	1	N/A	1	1	N/A
	Partial Data Length		N/A	0	N/A	0	0	N/A
	Partial Data Action	Erase/Select	N/A	Select	N/A	Select	Select	N/A

Table 3 - KDC Menu

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KDC Mode Menu

The KDC Mode Menu has two options – Normal mode and Application mode.

Normal

This is the default mode that provides basic barcode scanning. In Normal mode, barcode data can be manipulated directly through the KDC or through KTSync® during the synchronization process.

Application

This mode allows you to run the user application created by the Application Generation Tool, as described in Chapter 7 Application Generation.

View Data Menu

This menu option allows you to view and/or delete barcodes stored in the KDC. In the case of the KDC20/30, you can delete the last scanned barcode by pressing the DELETE button on the right side of the unit.

Figure 17 - Delete Function in KDC20/30

Set Barcodes Menu

This menu lists all the barcode symbologies supported by the KDC and allows you to select the barcode symbologies to be scanned. For maximum scan performance, you should select only the symbologies that you will be scanning. Please refer to 11. Appendix – 11.1 Symbologies for a detailed listing of symbologies supported by the KDC.

Code Options Menu

The KDC supports various Code Options, including Transmission of Start and Stop Characters, Symbology Conversion, Verification of Optional Check Character, and Transmission of Check Digit. Please refer to 11. Appendix A – 11.2 Code Options for a detailed explanation of each option.

Scan Options Menu

Scan Angle (Opticon model only)

This option allows you to configure the laser beam angle to the barcode. There are two options for scan angle: Wide and Narrow. Wide is 54° and Narrow is 27°. The default is Wide.

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Filter (Opticon model only)

This menu allows you to change the Filter mode from Normal to High for poor quality barcodes. The default is Normal.

Timeout

In this menu, you can set the interval between scans. The timeout options are from 5 seconds up to 10 seconds. The default is 2 seconds.

Minimum Barcode Length

This option allows you to set a barcode length from 2 characters to 36 characters (KDC20/100/200/250/350L/410/415) or 2 characters to 48 characters (KDC30/300/350C/420/450). It is strongly recommended that you maximize the minimum barcode length setting to prevent possible errors.

- The default minimum barcode length of KDC20/100/200/250/350L/410/415 is 4 characters.
- The default minimum barcode length of KDC30/300/350C/420/450 is as follows:

		Minimum (Default)	Maximum (Default)
1D Symbology	Codabar	2(4)	60(60)
	Code 11	1(4)	80(80)
	Code 32		
	Code 39	0(0)	48(48)
	Code 93	0(0)	80(80)
	Code 128	0(0)	80(80)
	EAN-8		
	EAN-13		
	GS1 Composite		
	I2of5	2(4)	80(80)
	Matrix 2of5	1(4)	80(80)
	MSI	4(4)	48(48)
	Plessey	4(4)	48(48)
	PosiCode	2(4)	80(48)
	GS1 Omni		
	GS1 Limited		
	GS1 Expanded	4(4)	74(74)
	S2of5 Ind	1(4)	48(48)
	S2of5 IATA	1(4)	48(48)
	TCL39		
	Telepen	1(1)	60(60)
	Trioptic		
	UPCA		
	UPCE0		
	UPCE1		

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2D Symbology	AztecCode	1(1)	3750(3750)
	AztecRunes		
	CodablockF	1(1)	2048(2048)
	Code16K	0(1)	160(160)
	Code49	1(1)	81(81)
	DataMatrix	1(1)	1500(1500)
	MaxiCode	1(1)	150(150)
	MicroPDF	1(1)	366(366)
	PDF417	1(1)	2750(2750)
	QRCode	1(1)	3500(3500)
	HanXin Code		
Postal Codes	Postnet		
	PlanetCode		
	UK Post		
	Canada Post		
	Kix Post		
	Australia Post		
	Japan Post		
	China Post	2(4)	80(80)
	Korea Post	2(4)	80(48)
OCR	OCR Off		
	OCR A		
	OCR B		
	OCR USC		
	OCR MICR		
	OCR SEMI		

Table 4 - KDC350C Minimum Barcode Length

Image Capture (KDC30/300/350C/420/425/450)

This option allows you to capture an image in JPEG format in C:\myData folder. You should enable the image capture option first, and then press the Scan button to start the aiming. A green aiming light will illuminate and an image will be taken upon release of the Scan button. KDC350C will disable the image capture option if the user presses the scan button for 10 seconds.

Security Level (KDC20/100/200/250/350L/410/415)

This menu allows you to ensure an accurate barcode reading by setting the number of times the KDC will read a barcode. Security Level is set from 1 up to 4. The higher security level means readings are more reliable; however, some performance degradation is likely. For poor quality barcodes, we recommend increasing the security level. The default is 2.

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Auto Trigger

Once enabled, Auto Trigger allows users to scan a barcode automatically. You can adjust Reread delay from Continuous to Extra Long. Auto Trigger mode always enables the duplicate check option.

Note

- *USB cable insertion requirement is removed from FW2.85/86.O and FW 3.02.*
- *You can exit the auto trigger mode by pressing the scan button for 3 seconds.*

Reread Delay

You can adjust the Reread delay from Continuous to Extra Long. Auto Trigger mode always enables the duplicate check option.

Partial Display

This option allows you to display partial data. You can define the start position and number of characters to be displayed.

Data Process Menu

Wedge/Store

The KDC provides five modes of data transmission in keyboard wedging mode.

- Wedge Only: Barcode data is NOT stored in memory but transmitted to the host.
- Wedge & Store Only: Barcode data is stored in memory and transmitted to the host.
- Store Only: Barcode data is stored in memory but NOT transmitted to the host.
- Save if Sent: If data transmission is successful, barcode data is stored in memory.
- Save if Not Sent: If data transmission is NOT successful, barcode data is stored in memory.

Data Format

The KDC provides two data formats, Barcode Only and Packet Data.

- Barcode Only: The KDC transmits scanned barcodes only. You may incorporate appropriate data transmission error detection and correction mechanisms in this mode. KDC supports a selection of various termination characters for Barcode Only format. You can select <NONE>, <CR>, <LF>, <CR+LF> or <TAB> as the termination character.

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- **Packet Data**: KDC transmits packet data with checksum to minimize transmission errors. KTSync® sets Data Format to Packet Data format upon execution.
  - ➢ You may change **Data Format** to **Barcode Only** if you would prefer to use the Barcode Only mode. However, the KDC would stay in Packet Data mode if KTSync is aborted abnormally. If this is the case, you may have to change the KDC back to Barcode Only mode manually.

Note

- **Barcode Index**: KDC20i/30i/200i/250i/300i/350i/400i add 4 bytes barcode index to maintain last synchronized barcode information.
  - This optional index would be added if data format is "Packet Data".
  - 4 bytes index would be added before "@" when responding to "p" command.
  - 4 bytes index plus "@" character would be added after checksum byte if the user scans a barcode and wedges to the host.

Data Editor

KDC provides various data editing options.

- **Prefix** - Allows you to add a prefix to scanned data, that can then be stored in the KDC or wedged to the host. The Prefix format must be defined in the Data Format menu of KTSync. The maximum length for a Prefix is 11 characters.

Note

- This Prefix option is different from the Prefix option in KTSync, which attaches the prefix to data during synchronization.

Note

- The user can also define the prefix by scanning characters defined in Appendix C. between the following special barcodes.

➧ KDC 20/100/200/250/300/350L/410/415

Prefix Enter Start

Prefix/Suffix Enter Finish

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KDC30/350C/420/425

Prefix Enter Start

Prefix/Suffix Enter Finish

Note Users can also delete or display current prefixes by scanning the following special barcodes.

KDC20/100/200/250/300/350L/410/415

Delete Prefix

Display Prefix

KDC30/350C/420/425

Delete Prefix

Display Prefix

- **Suffix** - Allows you to add a suffix to scanned data, which can then be stored in the KDC or wedged to the host. The suffix must be defined in the Data Format menu of KTSync. The maximum length for a suffix is 11 characters.

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Note

- This Suffix option is different from the Suffix option in KTSync, which appends the suffix to data during synchronization.

Note

- The user can also define a suffix by scanning characters defined in Appendix C.27 ~ C.28 (KDC350L) and Appendix D.27 ~ D.28 (KDC350C) by scanning the following special barcodes:

➧ KDC20/100/200/250/300/350L/410/415

Suffix Enter Start

Prefix/Suffix Enter Finish

➧ KDC30/350C/420/425

Suffix Enter Start

Prefix/Suffix Enter Finish

Note

The user can also delete or display a current suffix by scanning the following special barcodes.

➧ KDC20/100/200/250/300/350L/410/415

Delete Suffix

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Display Suffix

83007

KDC30/350C/420/425

Delete Suffix

┬MKDC83005.

Display Suffix

┬MKDC83007.

- AIM ID - Allows you to add AIM ID to scanned data, which can then be stored in the KDC or wedged to the host. AIM ID must be defined in the Data Format menu of KTSync. AIM ID is added to the end of either a Prefix or Suffix.
- Partial Data: Allows you to store and/or transfer partial data. The user defines the start position and number of characters to be stored and/or transferred.
  - Select the *x* characters from *y* position
    - Set Partial Data Start Position to *y*, Partial Data Length to *x*, Partial Data Action to Select
    - Partial Data Length *0* selects all characters from *y* position.
  - Erase the *x* characters from *y* position
    - Set Partial Data Start Position to *y*, Partial Data Length to *x*, Partial Data Action to Erase
    - Partial Data Length *0* erases all characters from *y* position.

Handshake

KDC provides Handshake mode when Data Format is set to Packet Data.

- Handshake Mode will increase the reliability of barcode data transmission.
- The default mode for Handshake is Disabled.
- Data transmission speed is slower when Handshake Mode is Enabled.

Terminator

The KDC supports various termination characters when the Data Format mode is set to Barcode Only. This option allows you to select <NONE>, <CR>, <LF>, <CR+LF>, or <TAB> as the termination character. The default terminator is <CR+LF>. The Up/Down/Left/Right arrow terminator is also available for HID mode.

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Chk Duplicate

This option prevents you from collecting duplicate data.

Enter Key (KDC350 Only)

This option determines the behavior of the '#' key on the KDC350 keypad.

- If this option is enabled, the '#' key acts as a keyboard enter key.
  - The '#' key finishes the current data input, and stores/sends input data according to the menu settings of **Wedge/Store**.
  - The cursor moves to next line after the current data input is complete, regardless of whether there is an data input or not.
  - The screen is scrolled up one line if the '#' key is pressed on the last line of KDC screen.
  - If 'Shift' is enabled, remember that the '#' key will input the '#' character.
  - When the KDC sends input data to the host, it attaches a terminator selected in the menu "**Data Process → Terminator**". This option can be enabled by scanning a special barcode, as shown in 13.8(KDC350L) and 14.8(KDC350C)
  - If this option is disabled, the '#' key acts as a scan button (when 'Shift' is not enabled).

BT Config Menu – KDC20/30/200/250/300/400

The KDC supports *Bluetooth* Ver2.1+EDR. Before utilizing the advantages of Bluetooth functionality with the KDC, the user should become familiar with Bluetooth connectivity and its impact on the host environment.

To configure your KDC for Bluetooth functionality, you can use the KDC Menus. To access the menus, simultaneously press the UP and DOWN buttons on the side of the KDC. Use the DOWN button to scroll to Bluetooth, then press SCAN button.

Below is a listing of the Bluetooth options and their settings. The default settings for these options have been set to increase the usability of Bluetooth technology without compromising the KDC battery usage.

IMPORTANT: We strongly recommend NOT changing these settings until the user has fully tested the Bluetooth connection between the KDC and the host device.

For more detailed information regarding Bluetooth functionality with the KDC, please refer to Chapter 4. BLUETOOTH.

ConnectDevice

You can choose the Bluetooth device type in this option.

- HID normal - KDC20(i)/30(i)/200Ii)/250(i)/300(i)/350(i)/400(i)/450(i)
- HID iOS - KDC20(i)/30(i)/200Ii)/250(i)/300(i)/350(i)/400(i)/450(i)

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- SPP2.0 - KDC20(i)/30(i)/200Ii)/250(i)/300(i)/350(i)/400(i)/450(i)
- SPP - KDC20(i)/30(i)/200Ii)/250(i)/300(i)/350(i)/400(i)/450(i)
- iPhone (KDC20i/30i/200i/250i/300i/350i/400i/450i)

Auto Connect

Enabled or Disabled

Auto Reconnect

Enabled or Disabled (iPhone, HID iOS, HID normal mode)

Auto Power On

Enabled or Disabled

PWR On Time

Disabled, 1 to 10 seconds

Auto Power Off

Enabled or Disabled (KDC250/350 should use option in system menu)

Beep Warning

Enabled or Disabled

PWR Off Time

1 to 30 Minutes

PowerOff Msg

Enabled or Disabled

MAC Address

When users select this option, KDC displays 12 characters *Bluetooth* MAC Address.

FW Version

This option displays *Bluetooth* Firmware Version

Wakeup Nulls

Enabled or Disabled

Autolock Time

0, 1, 2, 3, 4, 5, 10, 15 minutes

BT Toggle

Enable or Disable HID soft keyboard or iPhone mode connection On/Off toggle.

BT Disconnect Button

Enable or Disable Bluetooth disconnection by pressing down button for 3 seconds.

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HID AutoLock

Disabled, 1, 2, 3, 4, 5, 10, 15 minutes

HID Keyboard

Users can select a keyboard language in HID mode. KDC supports five languages: English, German, French, Spanish, and Italian.

HID Initial Delay

In this menu, users can define the initial delay between 1 second to 10 seconds before data transmission in HID mode

HID Inter-character Delay

This option allows users to define the inter-character delay between 10msec to 100msec in HID mode

HID Control Character

This option helps users to map control characters to either ALT+Numlock or ^+Character.

BT Service – KDC20/30/200/250/300/350/400

Power

Users can choose to turn Bluetooth Power on or off. Select between Enable and Disable.

Pairing Mode

This option allows user to enter pairing mode by simply selecting this menu.

- The KDC enters into pairing mode so that the host *Bluetooth* device can search for it.
- The KDC can exit pairing mode if the user presses the SCAN button or if it fails to pair with the *Bluetooth* host device within 90 seconds.

Discovering

When users choose this menu, KDC searches for nearby *Bluetooth* devices.

Connecting To

This option allows user to Inquire to registered *Bluetooth* devices.

HID Sync

KDC transmits all stored data to the host over HID profile if HID Sync option is enabled.

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GPS Config - 350G

Barcode and GPS data format

The KDC350 adds the GPS coordinate after the barcode data, if GPS data is available. The GPS data starts with "<G|P/S]" and ends with ":". For example, the KDC250 would record barcode "1234567890" , GPS coordinate "4354.45275,N;07925.81993,W" and Altitude data "208.7,M"as "1234567890<G|P/S]4354.45275,N;07925.81993,W ,208.7,M:" in the barcode data field.

GPS Menu

- GPS Power: Turning GPS Power on or off
  - Users can enable or disable the GPS Power.
  - The GPS module consumes extensive battery power. To conserve battery power, it is strongly recommended to turn off the GPS option when the KDC350 is not being used for an extended period of time.
  - It is also recommended to use the GPS Auto Power Off option in the System menu. This option automatically turns off the GPS power if a barcode is not scanned for a period of time.
- Power Mode: The user can choose the type power consumption for the GPS function.
  - Users can extend the battery life of the KDC350 in Power Save mode.
  - Users should use normal mode if accurate GPS data is required.
  - The KDC350 will last about 15 hours in normal non-bypass data mode and 18 hours in power save non-bypass data mode.
  - The KDC350 will last about 7 hours in normal bypass data mode and 8 hours in power save bypass data mode.
- Bypass Data: Enabled or Disabled
  - This option should be disabled if users wish to record the GPS data with a scanned barcode data.
  - The KDC350 will bypass GPS data to the host if the bypass option is enabled.
  - The KDC350 becomes a Bluetooth GPS receiver if this bypass data option is selected.
- Acquire Test: Time test to see how long it takes to acquire GPS signal.
- Reset GPS: Reset GPS parameters

GPS Hot Key

The KDC350 provides the following hot keys for convenient GPS operations:

- GPS Power Enable
  - If Auto Power Off is enabled and GPS power is disabled, users can turn on the GPS power by pressing the SCAN button.
  - Users should hold the SCAN button for more than 3 seconds to turn on the

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GPS power.

- GPS Bypass mode Enable/Disable
  - If GPS power is enabled, users can toggle GPS Bypass mode by pressing the SCAN button.
  - Users should hold the SCAN button for more than 3 seconds to toggle GPS bypass mode.
- GPS Acquire test cancellation
  - Users can cancel the GPS acquire test by pressing the SCAN button during the test.
- GPS Data append cancellation
  - Users can cancel GPS data append by pressing SCAN button if GPS data is not available immediately.
  - Users should hold the SCAN button for more than 3 seconds to cancel GPS data append.

USB DISK - 100M/200M/250M/300M/350

USB Mode

KDC100M/200M/250M/300M/350 can be used as USB Disk with 4MB space.

USB Serial

When this option is enabled, KDC enters into USB Serial mode.

USB Disk

This option allows user to change to USB Disk mode and barcode data that KDC scanned is stored into a file in flash disk when this option is selected.

Disk Format

This option is available in USB Disk mode and allows users to format KDC USB Disk.

Data Format

This option is available in USB Disk mode.

- Data
- Data Time
- Data Type
- Data Time Type

Note

- Changing the "USB Mode" option will erase all data in KDC memory. Make sure to back up your data before changing this option.
- KTSync cannot recognize the KDC if the KDC is in "USB DISK" mode.

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- It is required for the user to run "Verify Disk" on Disk Utility before using it.

NFC Config – KDC350N/KDC400N

NFC Power

- Turning NFC Power on or off
- Options: Enable/Disable

Data Format

- Options: Data only/Packet data

UID Only

- Enable or Disable UID Only menu
- The KDC only sends UID data to the host device when the KDC is in UID Only mode. If Data format is 'Data Only' or HID mode, the KDC changes the UID hex values to ascii string and sends this data to the host device. If Data format is 'Packet Data', the KDC only sends UID hexa values with NFC/RFID packet format.

Note

- KDC350N/400N supports the following card types.
  1) Mifare Desfile read.
  2) Mifare 1K read.
  3) Mifare Ultralight / Ultralight C
  4) ISO 15693

System Menu

Memory Size (3.0 version only)

The user can select how much memory to divide between normal data memory and application database memory.

- The KDC will erase all stored data upon changing the partition size.
- The user should enter the following key sequence to change the partition.
- UP button + UP button + DOWN button + DOWN button + SCAN button

Memory Status

In this option, users can checks the number of stored barcodes and memory usage.

Reset Memory

In this option, users can reset KDC memory by erasing all stored barcodes, applications, and BT registry.

Auto Erase

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If enabled, this feature erases stored barcodes on the KDC once the 'Buffer Full' condition is reached.

Sleep Timeout

This option allows users to set the amount of time the KDC waits before going to *sleep* (when not being used).

Auto Power Off (KDC250/350)

- Bluetooth: Enabled/Disabled
- GPS: Enabled/Disabled
- Power Off Time:0(Never), 5, 10, 20, 30, 60, 120 minutes

Date/Time

In this option, users can set the date and time of the KDC, which can also be set using KTSync®.

Battery

This option shows the current status of battery power level.

Version

This option shows the KDC firmware version and serial number.

Button Lock

This option allows users to lock or unlock the KDC scan and scroll buttons.

Beep Alert

- Beep Sound: Enables or disables KDC beep sound.
- Power On Beep: Enables or disables beep sound when KDC power is on.
- Beep On Connect: Enables or disables beep sound when KDC is connected to the host.
- Beep On Scan: Enables or disables beep sound when KDC is scanning.

Beep Volume

This option allows user to adjust the beep volume from High to Low.

MFi Mode (KDC20i, 30i, 200i, 250i, 300i, 350i, 400i)

This option allows user to enable or disable MFi mode. MFi mode supports SPP and iPhone Bluetooth profiles. Non-MFi mode supports SPP, SPP2.0, HID iOS and HID normal.

Vibrator

Enables or disables KDC vibrator.

Auto Exit

This option enables KDC to automatically exit KDC Menus.

Port Status

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This option allows users to enable or disable KDC port messages.

Display Format

There are various selection of display format; Time & Battery, Type & Time, Type & Battery, Memory Status and Barcode only.

Menu Barcode

This option allows users to enable or disable Honeywell special barcodes (KDC300/350C only).

Scrolling

This option allows users to enable or disable display scrolling for a barcode with more than 40 characters.

Brightness

This option allows users to adjust brightness of display.

Factory Default

By selecting this option, users can reset KDC options to factory default settings.

Pair and connect KDC20i/30i/200i/250i/300i/350i/400i and iOS4.0+ in HID iOS mode

Note

- Users have to disable the MFi option in System > MFi menu and change the Bluetooth profile to HID-iOS to use HID Bluetooth profiles.
- Users have to RESET the iPhone/iPad/iPod touch in order to change HID to iPhone mode, and vice versa, after removing a previous KDC connection.
- KDC with Bluetooth Spec2.1+EDR does not prompt Pin code entry menu.
- KDC with Bluetooth Spec. 2.1+EDR stack does not require 4 or 6 digits PIN digits entry

Follow the below steps in order to pair and connect KDC models for MFi and iOS4.0 in HID mode.

1. Go to the KDC System > MFi menu.
2. Change MFi option to Disabled.
3. Change ConnectDevice to HID-iOS
4. Remove previous KDC connection and RESET the device

5. Change KDC to Pairing mode.
6. The iPhone/iPad/iPod touch will find a new device as *Keyboard*.

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7. Click *Keyboard* device.

iOS Soft Keyboard toggling using BT Toggle option

Users need to select the option to use this feature in **BT Config** > **BT Toggle**. Press the DOWN button to toggle a soft keyboard.

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3.4 LED Status

KDC100/200/250/300/350

LED Color	Status
Green	• Successful Reading • USB is connected and battery is fully charged.
Orange	• Low battery • USB is connected and battery is charging.
Red	• No reading • Empty battery

KDC20/30/400

LED Color	Status
Green	• Successful Reading • *T* USB is connected and battery is fully charged. • iPhone mode in pairing mode.
Orange	• Low battery • USB is connected and battery is charging • HID mode is in pairing mode.
Red	• No reading • SPP mode is in pairing mode.

Table 5 - Explanation of LEDs

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3.5 Empty Battery

KDC100/200/250/300/350

The KDC will display the message *Empty Battery Connect USB* when the battery is empty. Please charge the KDC IMMEDIATELY to prevent any interruptions while it is collecting data.

KDC20/30/400

- Under 30% - Orange LED flickers at 1-second-intervals for 5 seconds every minute.
- Under 20% - Orange LED flickers at 1-second-intervals for 10 seconds every minute.
- Under 10% - Red LED flickers in 1- second-interval for 10 seconds every minute, and the user will hear a beeping sound.

3.6 Buffer Full

The KDC will display the message *Buffer Full* when the size of collected data reaches 160KB (85 version) / 60KB (86 version) or the number of collected barcodes reaches 10,240. To prevent the loss of data, you should synchronize the data then reset the memory when this message is displayed.

The 4MB version KDC reaches the Buffer Full condition in the following situations:

- 0.5MB Partition - Collected data size reaches 0.5MB or collected number is 25,600
- 1MB Partition - Collected data size reaches 1MB or collected number is 51,200
- 2MB Partition - Collected data size reaches 2MB or collected number is 102,400
- 3MB Partition - Collected data size reaches 3MB or collected number is 153,600
- 4MB Partition - Collected data size reaches 4MB or collected number is 204,800

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3.7 Reset Feature (100/200/250/300/350) or Power-on/off (KDC20/30)

The Reset feature allows you to restart the KDC100/200/250/300/350/400 if necessary, without losing any stored barcode data or option settings. To reset the KDC, follow the below steps.

1. Press the DOWN and SCAN buttons simultaneously for 5 seconds.
2. When the LEDs illuminate orange, release the buttons.
3. The KDC initial screen, **KoamTac Data Collector KDC**, displays when reset is complete.

Note The KDC stores collected data into flash memory and will not lose data nor the KDC settings during the reset process.

However, if you are using the KDC20/30, you can turn the power on and off by pressing the DOWN and SCAN button simultaneously for 5 seconds. When the LED light is green, you can release the buttons and the power will be on. When you turn off the KDC20/30, you will hear a beep sound after pressing the DOWN and SCAN buttons simultaneously.

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3.8 Replace Battery

Each KDC comes with a rechargeable, Lithium-polymer (KDC20/30/100/200) or Lithium-ion (KDC300/350/400) battery. The battery can be recharged from any USB port or KDC charging cradle, and can be recharged about 300 times before it needs to be replaced. KOAMTAC recommends replacing the battery annually, as a declining battery will cause noticeable performance degradation in the KDC. Replacement batteries can be purchased from a KDC reseller. Batteries should be disposed of properly as according to the WEEE regulation. The steps for replacing a battery are as follows.

1. Disassemble the KDC back cover by unscrewing the middle screw.
2. Remove the old battery and replace with a new battery.
3. Reassemble the back cover.

1		Unscrew the screw indicated by the arrow.
2		Remove the battery cover by pulling it down.
3		Remove the battery. Pull out the 2 pin connecter gently.

Figure 18 - Replacing a Battery

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4. Bluetooth – KDC20/30/200/250/300/350/400

The KDC20/30/200/250/300/350/400 supports HID (Human Interface Device) normal, HID iOS, SPP (Serial Port Profile) and SPP2.0 profiles. The KDC20i/30i/200i/250i/300i/350i/400i supports iPhone (Made for iPhone) profiles too. They are compatible with the following Bluetooth stacks:

- BlueSoleil
- Broadcom (Widcomm)
- Microsoft Windows XP, Vista, 7, and Mobile5.0+
- Toshiba

The KDC200/250/300/350's *Bluetooth* options can be configured by using the KDC menu and special barcodes. The KDC20/30/400's Bluetooth options can be configured by using the PC KTSync and special barcodes.

4.1 Bluetooth Config

ConnectDevice

The KDC supports both Serial Port Profile (SPP) and Human Interface Device Profile (HID). The user can choose amongst SPP2.0, SPP(2.1), HID normal, or HID iOS profiles to communicate with the host device. An additional iPhone (Made for iPhone) option is available for KDC20i/30i/200i/250i/300i/350i/400i models.

If the **BT Toggle** option in **BT Config** is enabled, the user can connect and disconnect the Bluetooth connection with the host device by pressing the UP and DOWN buttons. It normally takes 3 seconds to connect and 1 second to disconnect. This is a very useful feature for iPhone and iPad applications.

The user can also enable and disable the iPhone and iPad soft keyboard instantly by using this BT Toggle option.

The UP button shows the Bluetooth connection status and the DOWN button shows the time when the KDC is connected via SPP profile.

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Note The user should first unpair the KDC from the Bluetooth host to change the Connect Device setting on the scanner to a different Bluetooth profile.

Auto Connect

This feature allows the KDC to automatically connect to the host device when the KDC is powered on.

IMPORTANT: Until the host device and KDC have been fully tested, it is strongly recommended that this feature be set to 'Disable', because a host device that does not support this feature could cause problems, such as power loss or upload delays.

Note The KDC automatically tries to connect to the host 10 times within the duration of two minutes when *Bluetooth* power is ON, *Bluetooth* is disconnected, Auto Connect is enabled, and system Sleep Timeout is set to 5 seconds.

Auto Reconnect

This feature allows the KDC to automatically connect to the host device when the KDC is disconnected from a host.

IMPORTANT: This feature is available when KDC "Connect Device" options are "iPhone", "HID iOS", or "HID Normal".

Note The KDC tries to connect automatically to the host 10 times within the duration of two minutes if Bluetooth is disconnected.

Auto Power On

The Auto Power On option allows the KDC to automatically power on Bluetooth when the SCAN button is pressed. The default setting is Disabled.

Note Users should press the scan button for the duration defined in the BT Config Power-on time option. The host program may have to open the COM port again in order to be reconnected with the KDC.

PWR ON Time

The PWR On Time option works in conjunction with the Auto Power On option. The default value is Disabled. If the KDC Bluetooth power is off, you can turn on the Bluetooth power by pressing the SCAN button for the PWR On Time option value.

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Auto Power Off

The Auto Power Off option works in conjunction with the PWR Off Time option. This option allows the KDC to power off Bluetooth automatically when the KDC is NOT CONNECTED to the host for the time duration specified in the PWR Off Time option.

The default for this option is Disabled. It is strongly recommended to keep it enabled to maximize the operation time of the KDC. If Auto Power Off is Enabled, Bluetooth can be manually powered off before the specified time in the PWR Off Time option.

Beep Warning

The KDC beeps to acknowledge the status of the Bluetooth connection as follows:

1. One high short beep when Bluetooth is connected.
2. One low short when Bluetooth is disconnected.
3. Five short beeps if:
   - "Beep Warning is ENABLED"
   - "Auto Power Off is DISABLED"
   - "KDC20/30/200/250/300/400 is DISCONNECTED from HOST"
   - "Bluetooth power is ON"

PWR OFF Time

The PWR Off Time option works in conjunction with the Auto Power Off option. If Auto Power Off is Enabled, the KDC powers off Bluetooth when the duration of time specified in the PWR Off Time option is met and the KDC is NOT CONNECTED to the host. The time setting for this option is from one (1) minute to 30 minutes. The default is five (5) minutes.

PowerOFF Msg

The KDC sends a Bluetooth power off message "BTOFF" to the host if the PowerOFF message option is enabled.

MAC Address

The user can verify the KDC Bluetooth MAC Address.

FW Version

The user can verify the KDC Bluetooth firmware version in BT FW menu.

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Wakeup Nulls

The KDC sends three leading Null bytes to wake up the *Bluetooth* connected device. This feature can be disabled if the *Bluetooth* connected device does not require additional bytes to wake up.

Autolock Time

The iPhone/iPad/iPod touch loses incoming Bluetooth data while in sleep mode. To prevent data loss, you can set the KDC Autolock time to the same Autolock time of your iPhone/iPad/iPod touch, to use the automatic wakeup feature in HID mode.

If the Autolock time is set to more than one minute and the barcode scan interval is larger than the auto-lock time, there will be a one second delay of barcode transmission. The auto-lock time would be set as 0, 1, 2, 3, 4, 5, 10, 15 minutes. 0 means the iPhone/iPad/iPod touch never enters sleep mode.

HID Keyboard

The user can select an international keyboard – English, German, French, Spanish, or Italian.

HID Initial and Inter-Character Delay

Certain applications cannot process HID input fast enough and may lose some characters during transmission. Users should increase initial and inter-character delay to prevent data loss during HID transmission.

- HID Initial Delay: Defines the initial delay between 1 sec to 10 sec before data transmission in HID mode.
- HID Inter-character Delay: Defines the inter-character delay between 10msec to 100msec in HID mode.

Control character transmission in HID mode

Control characters between ASCII values 0x00 and 0x1F can be replaced by the ALT+Numpad or ^+Character.

- Disabled ➔ Transmit the original control character.

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- Alt+Numpad ➔ Transmit Alt+ ASCII value from Numpad.
- ^+Character ➔ Control characters would be substituted as shown in the following table.
- Replacement to | ➔ Control characters would be substituted as "|".

Control Char	Transmit Chars	Control Char	Transmit Chars	Control Char	Transmit Chars	Control Char	Transmit Chars
0x01	^A	0x0B	^K	0x14	^T	0x1D	^]
0x02	^B	0x0C	^L	0x15	^U	0x1E	^^
0x03	^C	0x0E	^N	0x16	^V	0x1F	^_
0x04	^D	0x0F	^O	0x17	^W		
0x05	^E	0x10	^P	0x18	^X		
0x06	^F	0x11	^Q	0x19	^Y		
0x07	^G	0x12	^R	0x1A	^Z		
0x09	^I	0x13	^S	0x1C	^\		

Function key transmission in HID mode

The user can send F1 to F12 function keys by scanning special barcodes in HID mode.

Disconnect/Reconnect/BT(HID) Toggle

The user can disconnect or reconnect the Bluetooth connection, and toggle the soft keyboard using side buttons.

Bluetooth Profile	UP Key	DOWN Key (DisconnectBTN disabled)	DOWN Key (DisconnectBTN enabled)
SPP	Does nothing	Does nothing	Releases BT connection
HID iOS	Reconnect	Soft Keyboard Toggle if pressing less than 3sec	Soft Keyboard Toggle if pressing less than 3sec, Releases BT connection
iPhone	Reconnect	Does nothing	Releases BT connection
SPP 2.0	Does nothing	Does nothing	Releases BT connection
HID normal	Reconnect	Does nothing	Releases BT connection

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4.2 Bluetooth Service

Power

The POWER option allows you to Enable or Disable the Bluetooth functionality of the KDC. To use Bluetooth, this option must be set to Enable.

However, like all devices enabled for Bluetooth, the KDC will constantly search to connect with a Bluetooth host when set to Enable. Constant searching for Bluetooth devices increases power consumption.

Unless you are using Bluetooth with your KDC, this option should be set to Disable.

IMPORTANT: To prevent unnecessary power problems, it is strongly recommended that the POWER option be set to Disable if the KDC is idle for an extended period of time.

Pairing

Before you are able to use Bluetooth, the KDC must be paired with the host device. This pairing process needs to be completed only once with each host device. After pairing, the host device will always recognize the KDC as a Bluetooth device, unless the Bluetooth configuration is modified. If it is modified, you may need to pair the devices again.

IMPORTANT: The host device must be configured for Bluetooth before it can be paired to the KDC.

Note KDC with Bluetooth Spec2.1+EDR does not prompt Pin code entry menu.

To pair the KDC with the host, follow these instructions:

1. Select Pairing from the Bluetooth menu. The message "**Pairing started…"** will be displayed.
2. When prompted by the host device, enter the Security PIN "0000".
3. The **"Pairing success"** message will display when the Bluetooth connection is successfully established. The connection must be established before the pairing timeout of 60 seconds.

- If **"Pairing failed..."** message displays, the Bluetooth connection with the host device failed. If the message **"Connected"** displays, a Bluetooth connection is established.

- It is possible for the message "**Pairing failed..."** to display on the KDC while the host device displays the **"Connected"** message. If this occurs, a Bluetooth connection has been established.

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Discovering

KDC20/30/200/250/300/350/400 starts to search for neighboring *Bluetooth* devices if the Discovering menu is executed. It will take about 30 seconds to finish searching and to list available neighboring *Bluetooth* devices. Another option is to enter the corresponding Bluetooth MAC address in the KTSync Bluetooth menu, instead of waiting for the KDC to search for neighborhood *Bluetooth* devices.

Connect To

This option lets you easily connect the KDC to *Bluetooth* devices that have been either previously registered in KTSync under the File Menu or discovered/connected from the KDC *Bluetooth* Service menu.

Note

There could be an interoperability issue depending on the corresponding device Bluetooth stack. The master Bluetooth device may request that you to follow the master Bluetooth device's security procedures, if the KDC tries to connect to the master Bluetooth device.

HID Sync

The user can synchronize stored barcode data over HID using the HID Sync option. The KDC will start to transmit all stored barcode data upon execution of the HID Sync option. This option is available when KDC MFi Mode option is disabled.

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5. Synchronization

When barcode data is collected, it must be uploaded to your application. KTSync®, which is bundled with the KDC, is a software that allows barcode data to be uploaded to any PC, PDA, or smartphone running Android 2.1+, Apple iOS3.1.3+, Blackberry, Mac and Windows XP/Vista/7/Mobile 5.0+. It has three major functions. (Windows XP/Vista/7 version supports all of the following features. Tablet, PDA and Smartphone versions support only limited features of PC KTSync.)

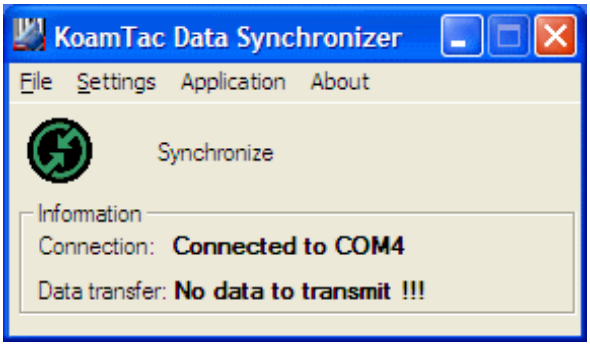
- Synchronization - Provides data upload functionality to your applications.
- Keyboard Emulator - Allows scanned data to be uploaded directly into your application as if the data were being entered manually with a keyboard.
- Application Generation - Allows users to create custom applications or download predefined applications such as Master-Slave, Pick/Bin, DB Lookup and Inventory.

Additional functions include:

- Prefix and Suffix add-ons to eliminate manual data entry.
- Symbology and Scan Option selections.
- Barcode Wedging options.

5.1 KTSync Menu

KTSync® was installed on your PC during the initial installation process. Before data can be uploaded to any host device, KTSync® must be launched on the host and configured to recognize the KDC. The following screen displays when KTSync® is launched:



KDC100/200/250/300/350

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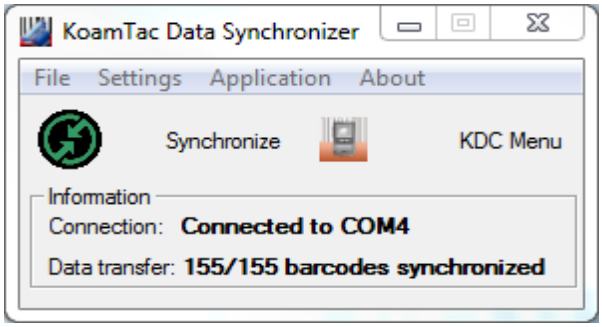

KDC20/30/400

Figure 19 - KTSync® Synchronizer Menu

File Menu

- Connect: This option displays the Serial port (COM#) assigned to KDC. You can also use this option to manually assign the Serial port. The Serial port assigned to KDC can be found under Windows Device Manager. The port assignment is used by KTSync® for synchronizing data from the KDC to the host.
- Synchronize: This option manually tells the KDC to synchronize data with the host. While data is being synchronized, KTSync menu options are unavailable.

Note Please do not use your computer during data synchronization.

- Bluetooth: This option is not available on KDC100. Users can register a MAC address to be directly connected by KDC20/30/200/250/300/350/400.
- Configuration: This option allows users to set different KDCs with same settings by exporting and importing settings from one KDC to the other.
- Exit: This option ends the KTSync program. You must re-run KTSync before you can synchronize data on the KDC.

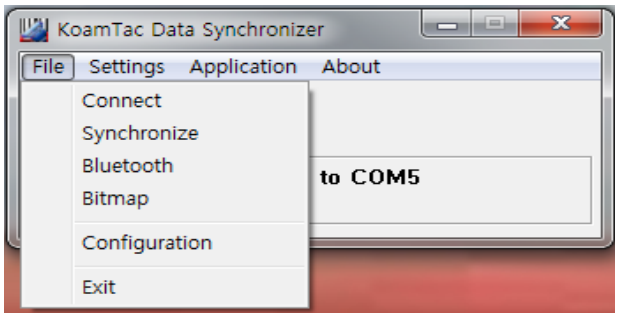

Figure 20 - File Menu

Settings Menu

- Synchronization: Select Synchronize options.
- Barcode & KDC: Select Barcode and KDC options.
- Others: Select Auto Connection and/or Synchronization Confirmation options.

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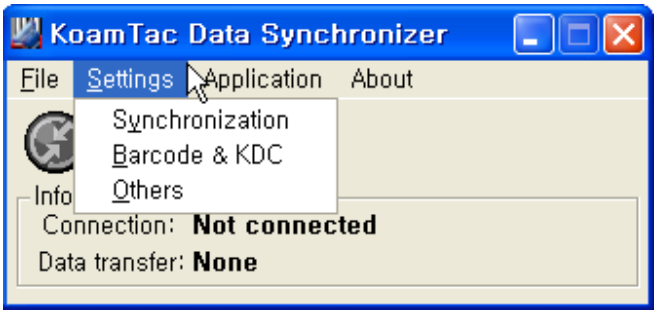

Figure 21 – Setting Menu

Application Menu

- Generation: Create user application or download predefined application.
- DB Lookup: Allows users to download DB into KDC and display barcode description field.
- Master/Slave: The user defines a master barcode for comparison with one or more slave barcodes.
- Pick/BIN: The user defines Pick ID and the barcode symbology for comparison with a defined Bin.
- Inventory: Users can count inventories. Inventory description will be displayed if inventory DB is downloaded into the KDC.

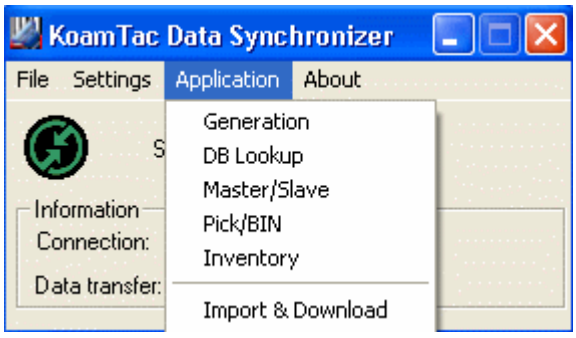

Figure 22 - Application Menu

About Menu - KTSync® - Version Information

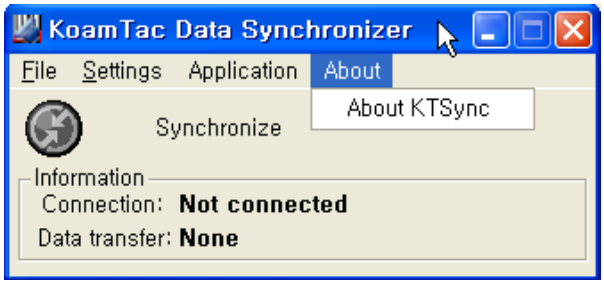

Figure 23 - About Menu

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5.2 File Menu

Connect to KDC

The KDC automatically connects to a COM port when connected to the PC's USB port. If needed, the user can manually assign the KDC COM port by using the KTSync® Connection submenu under the File menu.

Figure 24 - COM Port Selection for KDC

- The COM port assignment is found in the Windows Device Manager.
- KTSync® will not connect to the KDC if it is in the KDC Menus. You must EXIT from the KDC Menus.
- If KTSync® fails to connect automatically to the KDC, please follow these steps:

1. Exit KTSync®.
2. Check to make sure that you have connected the KDC to a USB port on your PC.
3. Make sure that the user is using the cable provided with the KDC.
4. Check to make sure that the KDC is not in KDC Mode Menu.
5. Restart KTSync®.

Note You can manually assign the COM port using KTSync® Connect option under the File menu.

Synchronize

Located under the File Menu, this option allows the user to manually synchronize data on KDC with the host. This option is similar to clicking on the Synchronize button in the KoamTac Data Synchronizer box.

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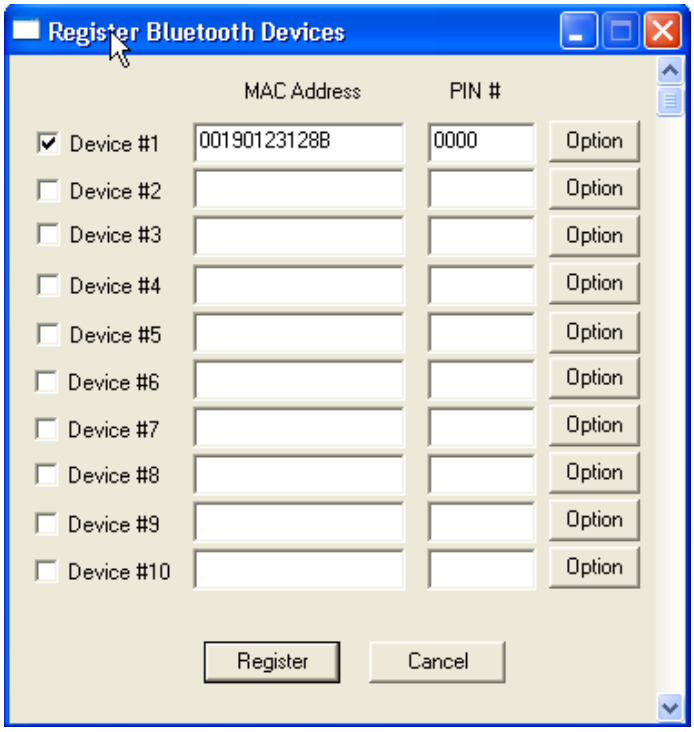
Bluetooth

This menu option allows the user to register up to ten Bluetooth devices, including their MAC address, PIN #, and optional prefixes or suffixes. This option enables direct Bluetooth connection between KDC and other Bluetooth devices, such as a *Bluetooth* printer. The user should choose a *Bluetooth* device to be connected in "Connect to" menu in KDC *Bluetooth* Service menu.



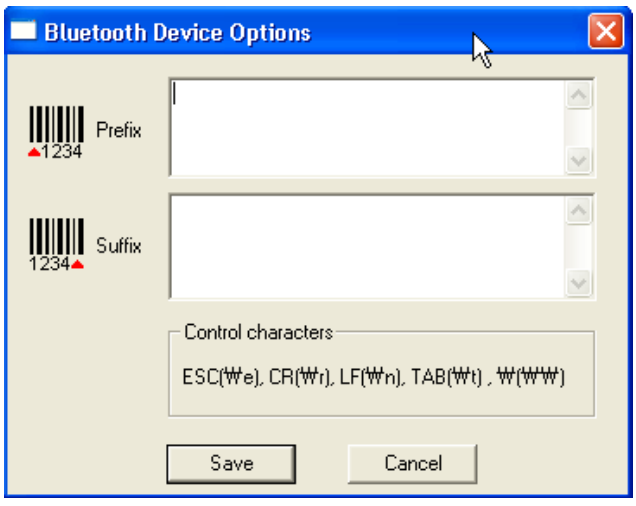


Figure 25 - Bluetooth Device Registry

Configuration

This menu is useful for the t KDCs with same settings. In this menu, you can export settings from a KDC to your computer and import it to other KDCs.

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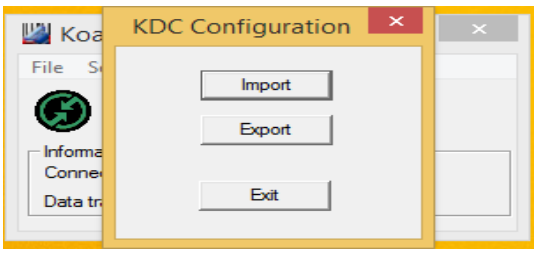
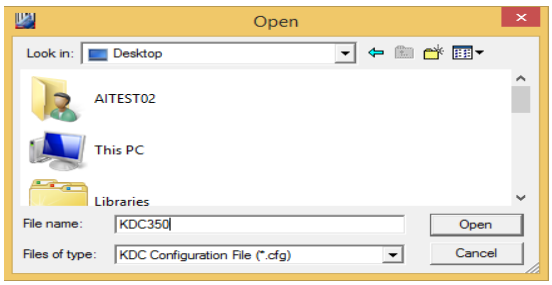
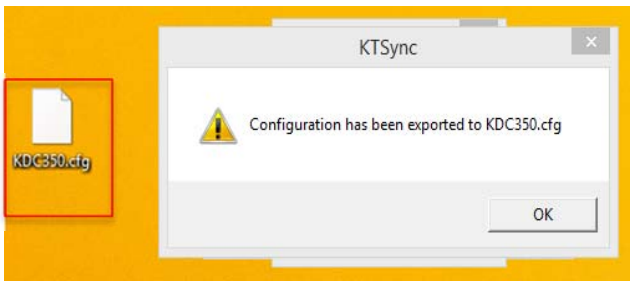
When you select **Configuration** in File menu, you will need to choose either **Export** or **Import**. First, select Export. You name the settings file, press **Open**, and it is exported to your computer. Second, connect a different KDC to your computer and import the settings file to the KDC by selecting **Import** in the Configuration menu. Once configuration has been finished, KDC will restart.

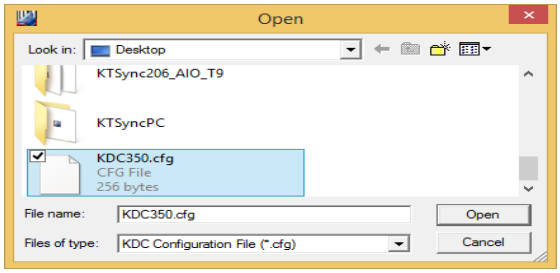


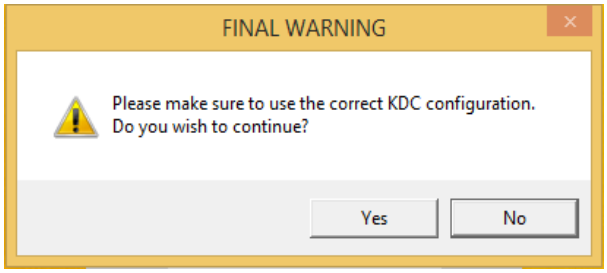
- Export





- Import





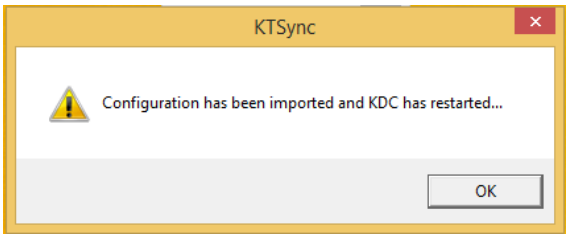


Figure 26 – Configuration

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5.3 Synchronization Settings

KTSync® provides several synchronization options for synchronizing data from your KDC to host devices such as your PC, PDA, or smartphone running Windows XP, Vista, Windows 7, or Mobile 5.0+.

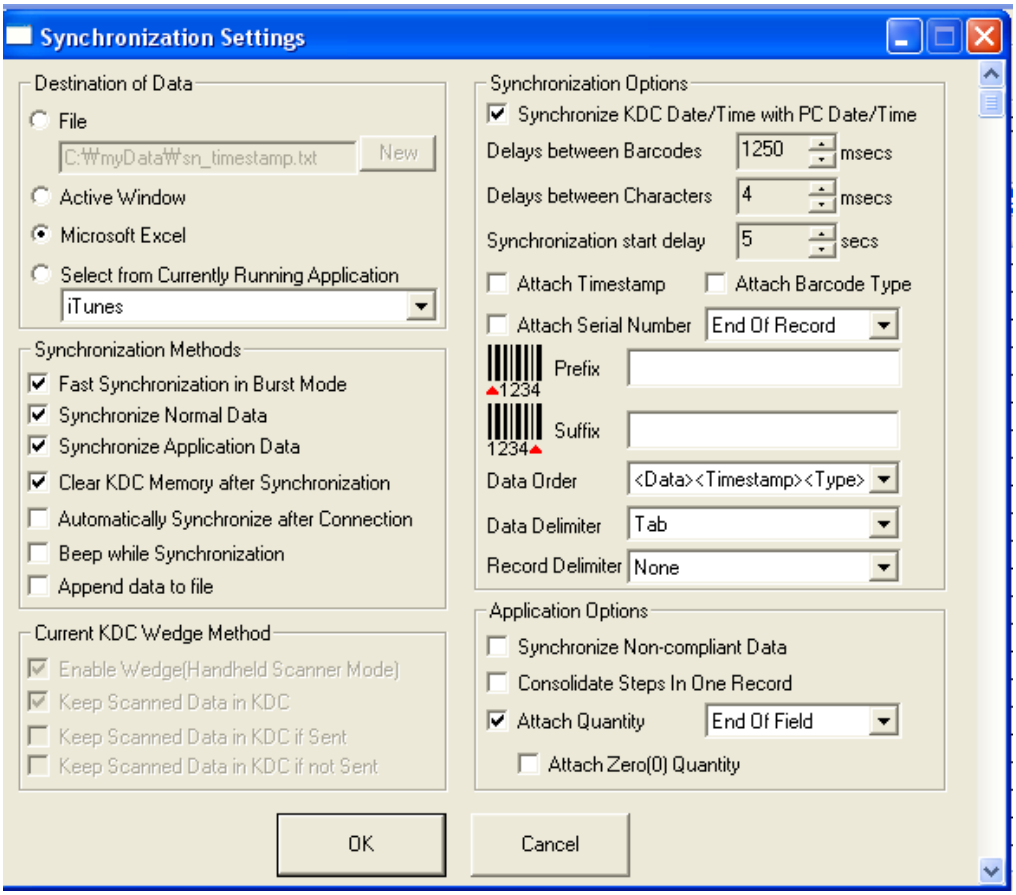

Figure 27 - KTSync® Synchronization Settings

Destination of Data

When barcode data is uploaded to the host device, you must assign a destination for the data. Destination of Data options include:

- File - This option means data will be saved in the assigned filename. You can select a different target directory by clicking the New icon. The default directory is C:\MyData\sn_timestamp.txt. If this directory is not created, you will be prompted to create it before data can be uploaded to a file.
- Active Window - This option means scanned barcode data is sent directly to the active program running on your device as if the data is being entered directly from a keyboard.
- Microsoft Excel - This option means barcode data is being imported directly into Microsoft's Excel. Various parameters can be set when uploading data to Excel.

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- Select from Current Running Application – This option allows you to select a currently running application for data synchronization.

Note

- Data synchronization begins immediately if Automatically After Connection is selected. If not selected, data synchronization is started manually by the user.
- Users SHOULD NOT operate the PC during the synchronization process. It can interrupt the process causing unreliable results.

Synchronization Methods

Fast Synchronization in Burst Mode

The KDC can synchronize data to a host device in Burst mode or Sequential mode. Burst mode provides the fastest synchronization process but could result in error in a poor *Bluetooth* environment. Fast synchronization in Burst mode is only recommended with USB connection.

Synchronize Normal Data

If Synchronize Normal Data option is selected, the KDC will synchronize only Normal Data in KDC memory. If the user wants all data in KDC memory synchronized, the user should select Synchronize Normal Data **and** Synchronize Application Data.

Synchronize Application Data

If Synchronize Application Data option is selected, the KDC will synchronize only Application Data in KDC memory. If the user want all data in KDC memory synchronized, the user should select Synchronize Normal Data **and** Synchronize Application Data.

Clear KDC Memory after Synchronization

If this option is selected, the stored barcode data is cleared from the KDC memory after synchronization. The KDC20/30/100/200/250 can store a total of 10,240 barcodes or 60KB (86 version)/160KB (85 version) of barcode data.

- It is important to clear the KDC memory periodically to prevent a Buffer Full message. Buffer Full prevents the KDC from storing additional data. Stored barcode data can also be deleted using the Reset Memory feature on the KDC.

Automatically Synchronize after Connection

This option lets the user automatically synchronize collected data immediately to the computer when the KDC is connected to the host.

- IMPORTANT: Before selecting this option, remember to configure all options properly.

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- Data synchronization can be done manually by clicking the synchronize icon if this option is not selected.

Beep while Synchronization

The user can enable or disable the beep tone during the synchronization process. If this option is selected, a beep is sounded every time barcode data is synchronized. The KDC beeps 5 times when the synchronization process is complete.

Append data to File

If the user has specified a file name and Append data to File option is enabled, KTSync will append data to the existing file instead of creating a new file.

Current KDC Wedge Method

The KDC can be configured in one of five Wedge/Store modes:

- Wedge Only - Scanned data is transmitted to the host. The KDC does not store scanned data.
- Wedge & Store - Scanned data is stored in the KDC and transmitted to the host.
- Store Only - Scanned data is stored in the KDC but NOT transmitted to the host.
- Save if Sent - Scanned data is stored in the KDC ONLY if transmission to the host is successful.
- Save if Not Sent - Scanned data is stored in the KDC ONLY if transmission to the host is unsuccessful.

Enable Wedge (Handheld Scanner Mode)

This option will be checked if Wedge Only or Wedge & Store option is selected.

Keep Scan Data in KDC

This option will be checked if Store Only or Wedge & Store option is selected.

Synchronization Options

Synchronize KDC Time with PC Time when Connected

This option enables the user to synchronize the KDC date and time with the host date and time. Synchronization of date and time occurs after the data is uploaded to the host device.

Delays

The user can set transmission delays between barcodes and characters during the synchronization process. It is important to set proper delays to prevent errors during the

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transmission of collected barcodes. Some Windows applications, such as Excel, require longer delay times.

Attachments

Timestamp, Barcode Type, and Serial Number can be attached to the scanned barcode by selecting these options. The Serial Number of the KDC can be attached to the Start or End of Record.

Prefix and Suffix

- Enter the characters the user wants to attach to the front (Prefix) or back (Suffix) of the barcode in the Prefix and Suffix fields.
- The character set is any combination of ASCII characters including alphanumeric, line feed ("\n"), and carriage return ("\r").

Order and Delimiter

- Select Order of Data – Type, Data, and Timestamp
- Select the Delimiter between Data – Tab, Space, Comma, and Semicolon
- Select the Delimiter between Records – None, LF, CR, Tab, and <LF & CR>

Application Options

Synchronize Non-Compliant Data

The KDC will synchronize both compliant and non-compliant data (filtered data) if Synchronize Non-Compliant Data option is Enabled.

Consolidate Steps in One Record

KTSync will consolidate the data collected in Step 1 with the data collected in Step 2 and/or Step 3. When Consolidate Steps in One Record is Enabled, data will be consolidated into one record instead of individual data records for each step. If this option is Enabled, non-complete records, i.e. three steps were defined but data was only collected for two steps, will be discarded.

Attach Quantity

If this option is Enabled, quantity will be attached to the left or right of the data.

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5.4 Barcode & KDC Settings

KTSync® allows the user to configure the KDC Scan Options and Barcode Settings. The configuration options for the KDC using KTSync® are similar to the Set Barcodes, Code Options, Data Editing and Scan Options on the KDC Menu. Please refer to 11. Appendix A – Barcode & Scan Options for proper barcode settings for the application.

Note The user must configure barcode and scan options properly for optimal KDC performance.

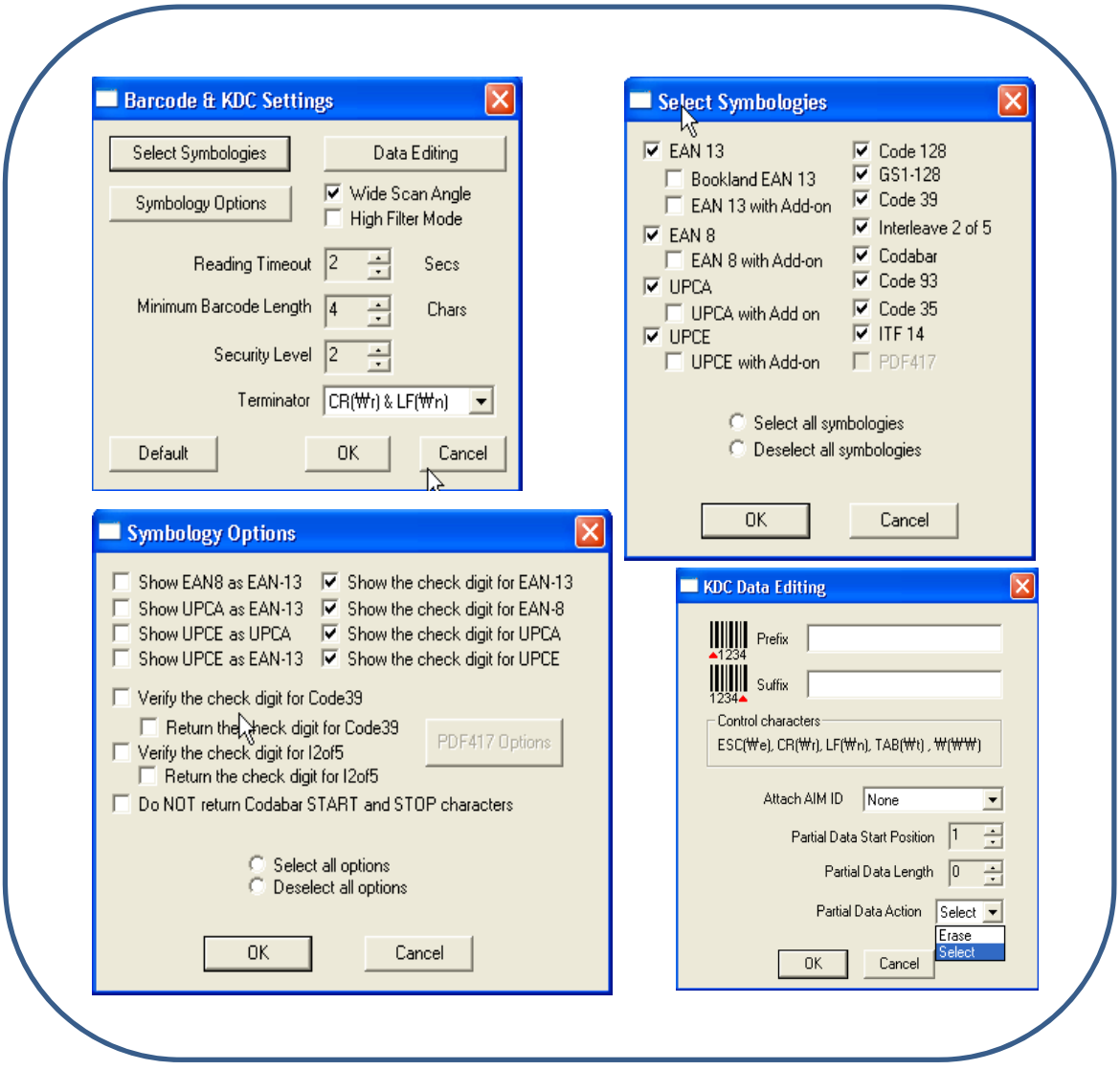

Figure 28 - Barcode & KDC Settings, Symbologies, Data Editing and Scan Options

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Select Symbologies and Symbology Options

The process for scanning and reading barcodes is delicate and complicated. Although your KDC is equipped with a high performance scan engine, if configured incorrectly it may not perform at its peak performance level. To ensure its high performance, the KDC comes configured to optimize its scan engine technology. Unless you clearly understand the impact of your changes to the KDC settings, please do not change factory default settings. Please refer to Appendix A for details. Pressing the Default icon will reset all symbology related options to factory default settings.

Data Editing Option

Prefix - Allows the user to add a prefix to scanned data that can then be stored in KDC or wedged to the host. The Prefix format must be defined in the data format menu of KTSync. The maximum length for a Prefix is 11 characters.

Note This Prefix option is different from the Prefix option in KTSync that appends the prefix to data during synchronization.

Suffix - Allows the user to add a suffix to scanned data, which can then be stored in KDC or wedged to the host. The Suffix must be defined in the data format menu of KTSync. The maximum length for a Suffix is 11 characters.

Note This Suffix option is different from the Suffix option in KTSync that appends the suffix to data during synchronization.

AIM ID - Allows the user to add AIM ID to scanned data, which can then be stored in KDC or wedged to the host. AIM ID must be defined in data format menu of KTSync. AIM ID is either added to the end of Prefix or Suffix.

Partial Data: Allows the user to display and store partial data. The user defines the start position and number of characters to be displayed and stored.

- Select the *x* characters from *y* position
  - Set Partial Data Start Position to *y*, Partial Data Length to *x*, Partial Data Action to Select.
  - Partial Data Length *0* selects all characters from *y* position.
- Erase the *x* characters from *y* position
  - Set Partial Data Start Position to *y*, Partial Data Length to *x*, Partial Data Action to Erase.
  - Partial Data Length *0* erases all characters from *y* position.

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5.5 Other Settings

Other options under the Settings menu allow the user to select four additional settings:

- **Ask Confirmation before Trying Auto Connection** prevents unintentional launch of KTSync.
- **Ask Confirmation before Starting Auto Synchronization** prevents unintentional synchronization of data.
- **Minimize KTSync on Start** will minimize KTSync and send it to the tray upon execution.
- **Keep Checking *Bluetooth* Connection** allows reconnection of KDC once *Bluetooth* signal is detected. This feature is useful when moving to or from *Bluetooth* host device frequently. KTSync will automatically reconnect *Bluetooth* connection when the user enter an effective *Bluetooth* network range. *(Not Available on KDC100)*

To select any of these settings, click on the box to the left of the setting. A check mark (√) will display next to the setting to indicate that it is selected.

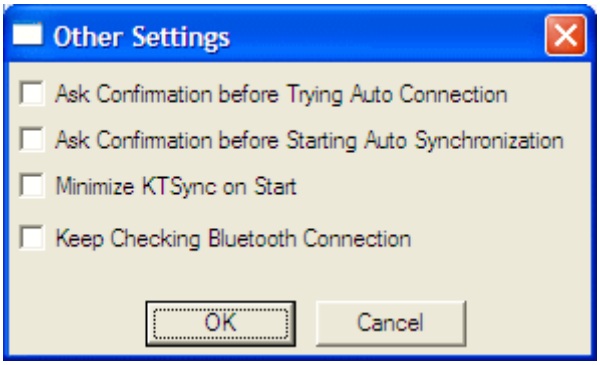

Figure 29 - KTSync® Confirmation Settings

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5.6 KDC Menu in KTSync (KDC20/30/400)

After connecting KDC 20/30/400 to PC with a USB cable, run KTSync on your PC and you will see **KDC Menu** on the right side of KTSync window. Click **KDC Menu**, and you can configure your KDC20/30/400 in KDC Menu window, as shown below.

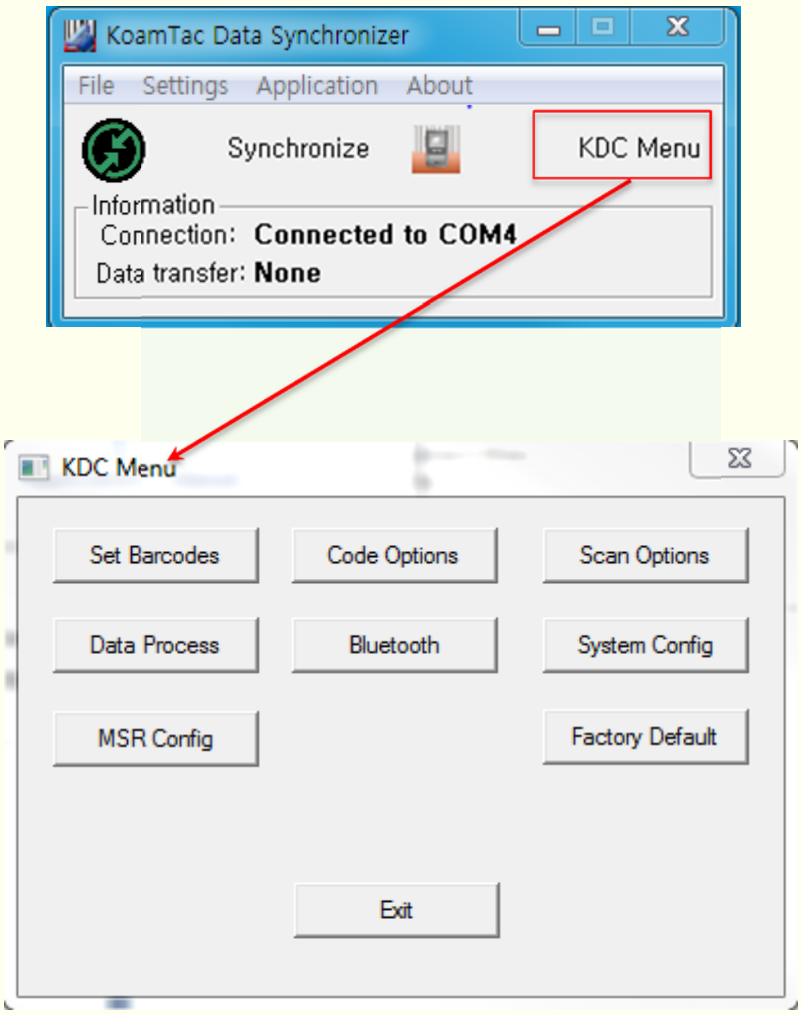

Figure 30 - KDC Menu in KTSync (KDC20/30/400)

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5.7 Mobile pKTSync

pKTSync provides limited functionality for Pocket PC 2003 and Mobile 5.0+ users.

1. Synchronization - Provides data upload functionality to your applications.
2. Keyboard Emulator - Allows scanned data to be uploaded directly into your application as if the data were being entered manually on a keyboard.

For detailed explanations of these functions, please refer to earlier sections of this chapter.

WARNING: The user must assign the correct COM port to KDC before using pKTSync. Please refer to the mobile device manual for details on Bluetooth pairing and COM port assignment methods.

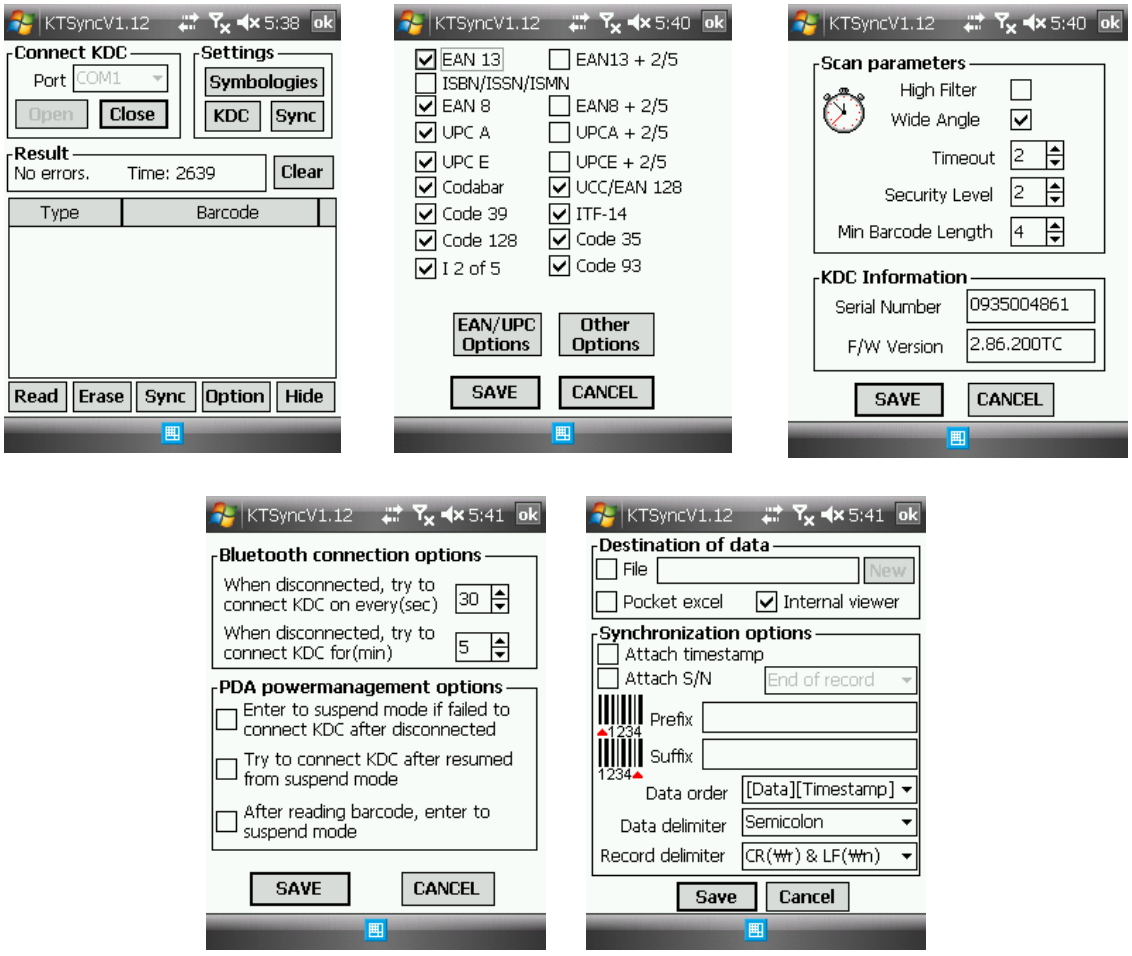

Figure 31 - Mobile pKTSync

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5.8 Android aKTSync

The aKTSync provides limited functionality of PC KTSync to Android users.

Note

- aKTSync only supports Android devices with 2.1+ OS version and that are compatible with BluetoothChat application.
- KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu.

KDC and Android Pairing

1. Pairing
   - Select **SPP** Bluetooth profile from the KDC **ConnectDevice** submenu in **BT Config** menu.
   - Search KDCxxx from Android and pair the two devices.
   - If SPP2.0 is selected, KDCxxx PIN code is "0000".
2. Connection
   - Click **Connect** icon in aKTSync.
   - Android will list paired *Bluetooth* devices and the user should select the target KDC.
3. Synchronization: Provides data upload functionality to the applications.
4. Settings: The user can change various Synchronization options in the settings menu.
5. Wedging: The user can wedge barcode data to any Android application. Press the home key and launch the target application.

Launch KTSync

1. Download and install aKTSync from the Android Play Store.
2. Change KDC Bluetooth **ConnectDevice** option to *SPP.*
3. Execute Android *Bluetooth* device scan option and KDC *Bluetooth* pairing option.
   A. Execute KDC *Bluetooth* **Pairing** option.
   B. Launch **Settings** on the Android device.
   C. Select **Wireless and Networks.**
   D. Click on **Bluetooth Settings.**
   E. Click on **Scan devices.**
   F. The Android device will display the KDC model and 6 digits of the serial number.
4. Press the KDC list entry, enter "0000" PIN code, and press **OK.**

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5. When paired, the Android device will display "*Paired but not connected*".
6. Launch aKTSync program.

   A. Press menu key and select the **Connect** option on the top left.

   B. From the list of paired devices, choose the KDC to use.

   C. On the top menu bar of aKTSync, you will see a message "*connecting*", and then "*connected*".

   D. On the KDC display, you will see "Pairing Succeeded!!!" and then "Bluetooth Connected".

   E. Select **Settings** option on the bottom left to change aKTSync setting.

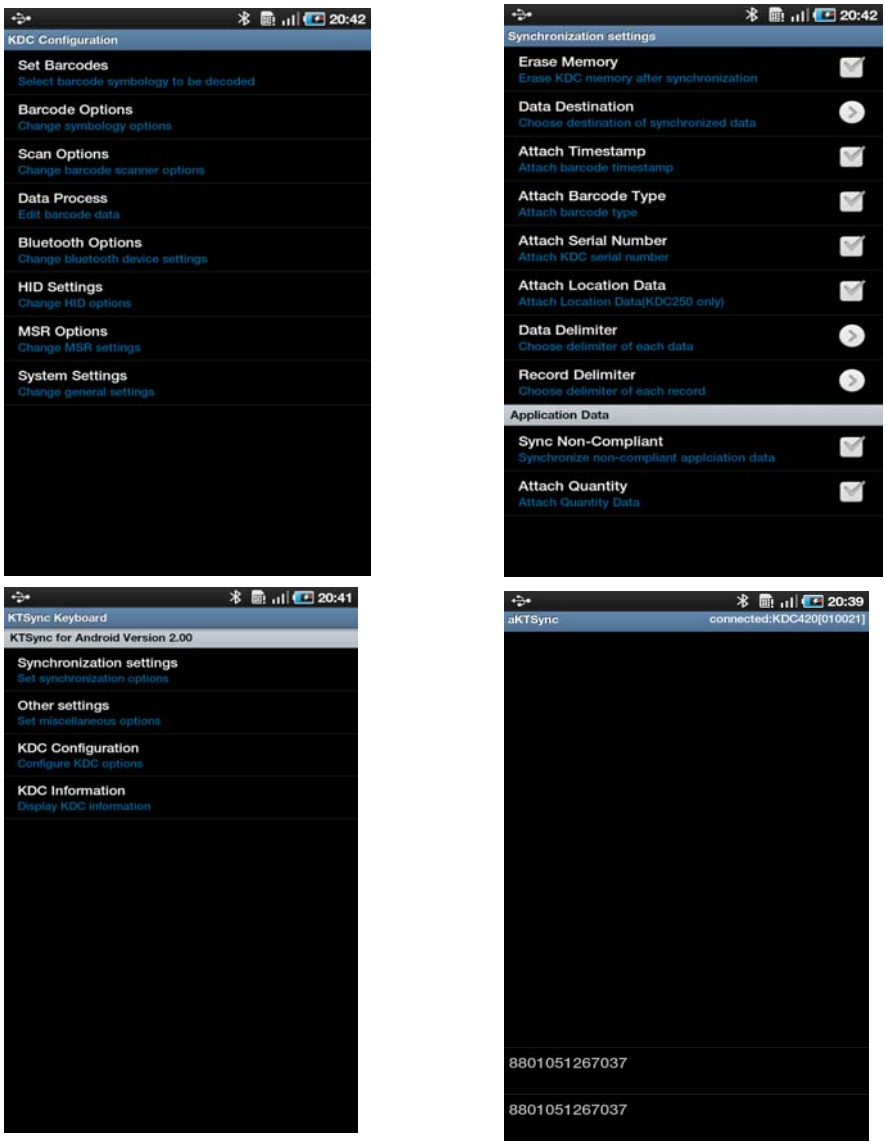

Figure 32 - Android aKTSync

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Keyboard Wedge

1. Launch **Settings** on the Android device.
2. Select **Language and Keyboard** (or **Input method**).
3. Select **KTSync Keyboard**.
4. Launch the application and touch the input box to focus.
5. The barcode will be wedged to the input box upon scanning a barcode.

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5.9 iPad/iPhone/iPod touch KTSync

The KTSync for iPad/iPhone/iPod touch provides limited functionality of PC KTSync for iPad, iPhone and iPod touch users.

1. The KDC supports **SPP** and **iPhone** Bluetooth profiles.
2. The iPhone/iPad/iPod touch should use **iPhone** Bluetooth profiles. **iPhone** is the default profile of KDCi models.
3. Download the KTSync program from the App Store.
4. Enable the iPhone/iPad/iPod touch Bluetooth power from the **Setting > General > Bluetooth menu**.

Note

- Users have to disable MFi option in System > MFi menu to use HID Bluetooth profiles.
- Users have to RESET the iPhone/iPad/iPod touch to change "HID to iPhone mode" or "vice versa" after removing previous KDC connection. KDC with Bluetooth Spec2.1+EDR does not prompt Pin code entry menu.

KDC20i/30i/200i/250i/300i/350i/400i connection using iPhone mode

1. Download and install iKTSync from the Apple App Store.
   http://itunes.apple.com/us/app/ktsync/id372916602?mt=8
2. Press the two KDC side buttons simultaneously to enter menu mode.
3. Scroll down to **Bluetooth** menu using KDC Down button.
4. Press the front middle scan button.
5. Scroll down to **Discovering** and press the front middle scan button.
   a. **"Discovering Started …"** message will be displayed on KDC screen.
   b. Discovering will take about 30 seconds.
6. Select discovered iPhone/iPod touch device name and press the front middle scan button.
   a. [Pin Code] User Default/Enter PinCode will be displayed.
   b. Press the front middle scan button to select the **Use Default** option.
   c. The message "Connecting to iPhone/iPod touch device name" will be displayed.
   d. iPhone/iPad/iPod touch will ask for the PIN number.
   f. Please enter "0000" and hit "connect" icon.
   g."iPhone Connected" message will be displayed.
7. Launch KTSync and configure Settings.

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iKTSync Settings

iKTSync provides following Settings menu.

- Synchronization - The user can configure Synchronization options, such as destination of data, data formation and delimiters.
- Other settings - Users can configure KDC350 GPS module, disconnection options and soft trigger button.

Figure 33 - iPad/iPhone/iPod touch KTSync

How to connect and reconnect iPhone mode using UP keys

1. The user needs to select the option to use this feature in the BT Config > BT Toggle.
2. Press the UP button to connect or reconnect to the iPhone/iPad/iPod touch.

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5.10 Blackberry bKTSync

The bKTSync provides limited functionality of PC KTSync for Blackberry users.

Note KDC with Bluetooth Spec2.1+EDR does not prompt Pin code entry menu.

1. Download and install bKTSync from the Blackberry App World.
   http://appworld.blackberry.com/webstore/search/ktsync?lang=en
2. Go to **Blackberry Options** > **Applications** menu and enable **Input Simulation** option.
3. Change KDC Bluetooth profile in **ConnectDevice** option to **SPP**.
4. Execute Blackberry *Bluetooth* manager and KDC *Bluetooth* pairing option:
   A. Execute KDC *Bluetooth* **Pairing** option.
   B. Launch the Blackberry *Bluetooth* manager and select "Search". The KDC model and 6 digits of the serial number will be displayed.
   C. Highlight the KDC and press the Enter or Select Key.
   D. Enter "0000" PIN code and press the Enter or Select Key.
   E. The Blackberry will display *"Pairing with KDC"* and then *"complete."*
   F. Close the Blackberry Bluetooth manager.
5. Go to Downloads folder and execute KTSync.
6. The user can configure KDC options in KDC settings and Symbologies Settings menu.
7. Go to KTSync Synchronization Settings and select Destination. To send collected barcode data as an email attachment, choose **Email Attachment** as destination and enter in the email address, subject, and body message that the user want to send. The user can enter multiple email addresses using the semicolon (;) separator.
8. To scan barcodes into any application (like email, notes, worksheet or web browser), press the menu key and select **Running in the background** option. bKTSync will maintain the connection and place the scanned barcode data wherever the cursor is flashing.

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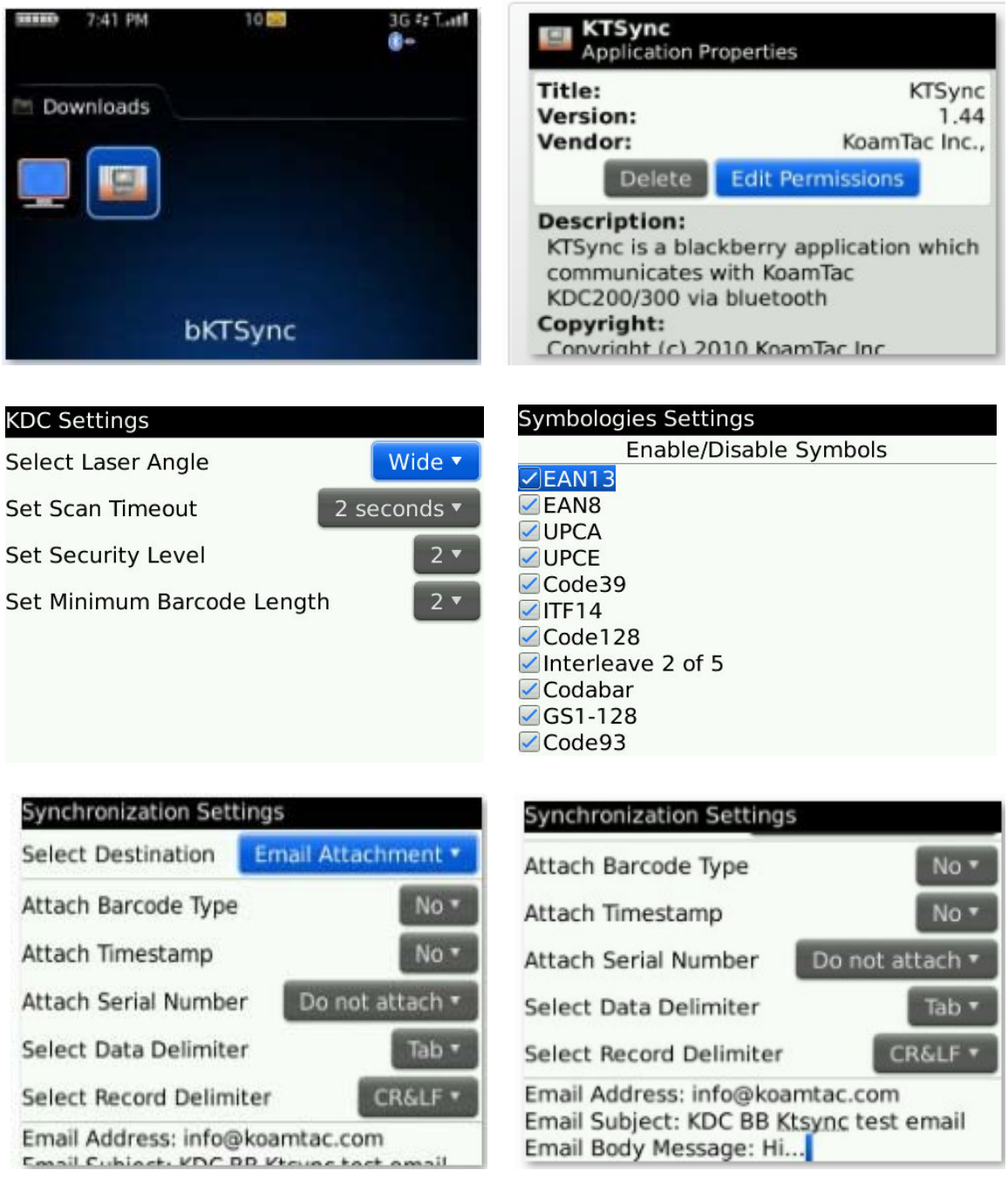

Figure 34 - Blackberry bKTSync

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5.11 KTSync for Mac OS X

The KTSync Mac OS X version provides limited functionality of PC Windows KTSync for Mac OS X users.

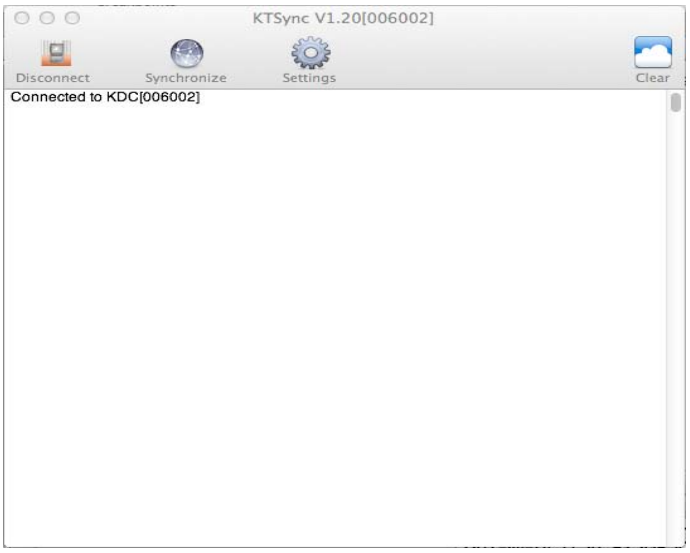
Note

- KTSync for Mac OS X version supports both Bluetooth SPP profile and USB connection. The user should pair KDC with Mac before using the KTSync program via Bluetooth connection.
- Mac OS X version KTSync is built as a X86 binary application and works with the Intel-based Mac. It is verified on Mac PC running Mac OS X 10.6.5 and later versions.

KTSync Mac OS X version supports the following features:

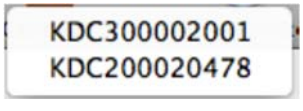
- ✓ Keyboard wedge function to a file, internal viewer, active window, and user application.
- ✓ Synchronization to a file, internal viewer, active window, and user application.
- ✓ Automatic connection and disconnection on USB port.

The user will see the following initial KTSync screen upon launching the program. KTSync will connect automatically if KDC is plugged in a USB port or if KDC is paired.



Connect Button

The user can connect the Mac with the KDC that is paired or plugged into the USB port by clicking the Connect button. The following screen will be displayed when this button is pressed, and KTSync will start to connect to the selected KDC.



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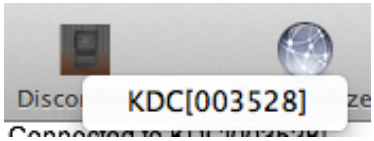
Disconnect Button

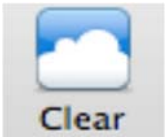
KTSync changes Connect button to Disconnect button once the KDC is connected. The user can disconnect the KDC manually by selecting connected KDC on the following screen.



Synchronize Button

The user can start the synchronization process by pressing the Synchronize button. The user can select the destination of barcode data in the settings menu. There are 4 selectable destinations: File, Internal viewer, Active window, and User application.

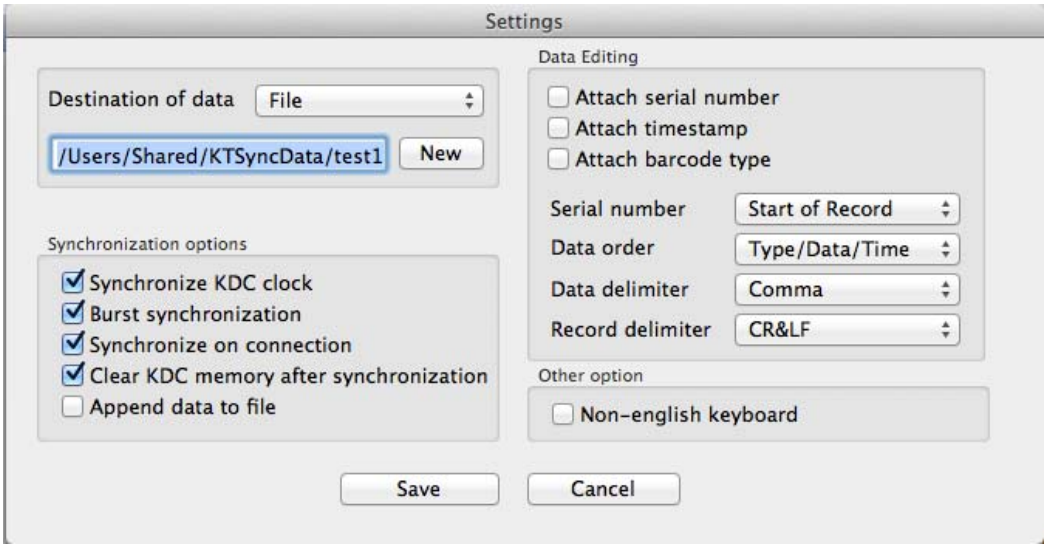
Clear Button



The user may press this button to clear the KTSync internal viewer.

Settings Button

The user can configure synchronization options on the following screen by pressing the Settings button.



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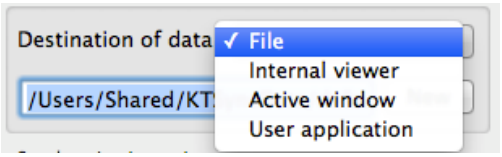
Destination of data

The KTSync program wedges or downloads barcode data to one of the following four destinations:



- File: The KTSync makes a file name based on 3.11 if file name is specified as an "sn_timestamp.txt". The default directory is /Users/Shared/KTSyncData directory. The user can define another directory or another filename by clicking the "New" button. The maximum file path length is 128 characters.
- Internal viewer: The KTSync displays barcode data in KTSync internal text viewer.
- Active window: The KTSync sends barcode data to current active window if Active window option is selected.
- User application: The user can define the target application by pressing the "New" button. The maximum application name path length is 128 characters.

Synchronization Options

- Synchronize KDC clock
  KTSync will set the KDC's date and time with Mac PC date and time when the KDC is connected to Mac, if this option is enabled.

- Burst synchronization
  KTSync will synchronize barcode data from KDC in burst mode. Otherwise, KTSync would synchronize barcode data one by one. This option is enabled by default and cannot be disabled.

- Synchronization on connection
  KTSync will automatically synchronize barcode data from the KDC when the KDC is connected, if this option is enabled.

- Clear KDC memory after synchronization
  KTSync clears barcode data stored in the KDC's memory once synchronization has finished, if this option is enabled.

- Append data to file
  KTSync appends synchronized data to existing file specified on destination. If file does not exist then KTSync creates a new file.

Data Edition

- Attach serial number
  The KTSync will add a KDC serial number to barcode data. This option is enabled by default and cannot be disabled.

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- Attach time stamp
  The KTSync would add timestamp to barcode data. This option is enabled by default and cannot be disabled.

- Attached barcode type
  The KTSync would add barcode type to barcode data. This option is enabled by default and cannot be disabled.

- Serial number
  When **Attach serial number** is enabled, this option determines when to attach serial number. "Start of record" means to attach at the front of record and "End of record" means to attach to the end of record.

- Data order
  This option specifies the order of data (Barcode Type, Barcode Data and Timestamp) in the record.

- Data delimiter
  This option is used to select a character to be added between barcode data, serial number and timestamp and/or barcode type. User can select one of the following: **None, Tab, Space, Comma** and **Semicolon** as the data delimiter. The **Comma** is selected as the data delimiter by default.

- Record delimiter
  This option is used to select a character to be added at the end of the barcode record. The user can select one of **None, CR, LF, TAB**, and **CR&LF** as the record delimiter. The **CR&LF** is selected as the record delimiter by default.

Other Options

- Non-English keyboard
  This option is used when the barcode data has non-English characters and a non-English keyboard.

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6. Application Generation

Note

KDC FW2.85.200.x does not support the Application Generation feature. Users should upgrade FW2.85.200.x to FW2.86.200.x to use Application Generation feature.

When you select the Application menu from the KTSync, youthe user can choose from the following five Applications: Generation, DB Lookup, Master/Slave, Pick/BIN, and Inventory. Users can also download saved programs using the Import & Download option.

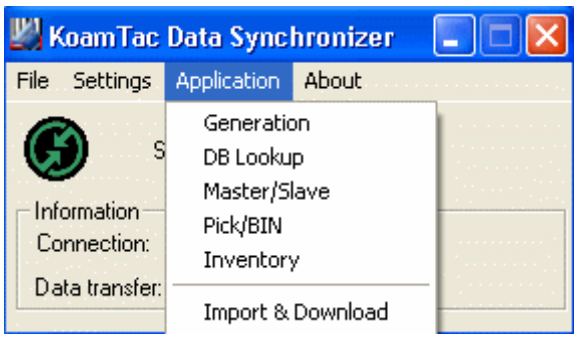

Figure 35 - Application Menu

When the Application tool is selected, the KDC will beep once to acknowledge a connection between the KDC and the Application tool. The following KTSync warning window will pop up if the downloaded application in KDC does not match with KTSync application tool.

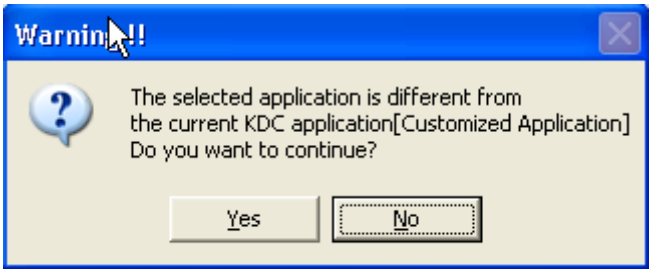

Figure 36 - Application Warning Window

Note

KDC will wedge barcode data to the host in application mode if "wedge and store always" option in data process menu is selected and KDC firmware version is higher than 2.86.xxx.G.

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6.1 Application Generation

KDC Application Generation tool is a robust feature that allows you to create custom applications for collecting and managing barcode data. To create a custom application, select the Generation submenu from the Application menu in KTSync®.

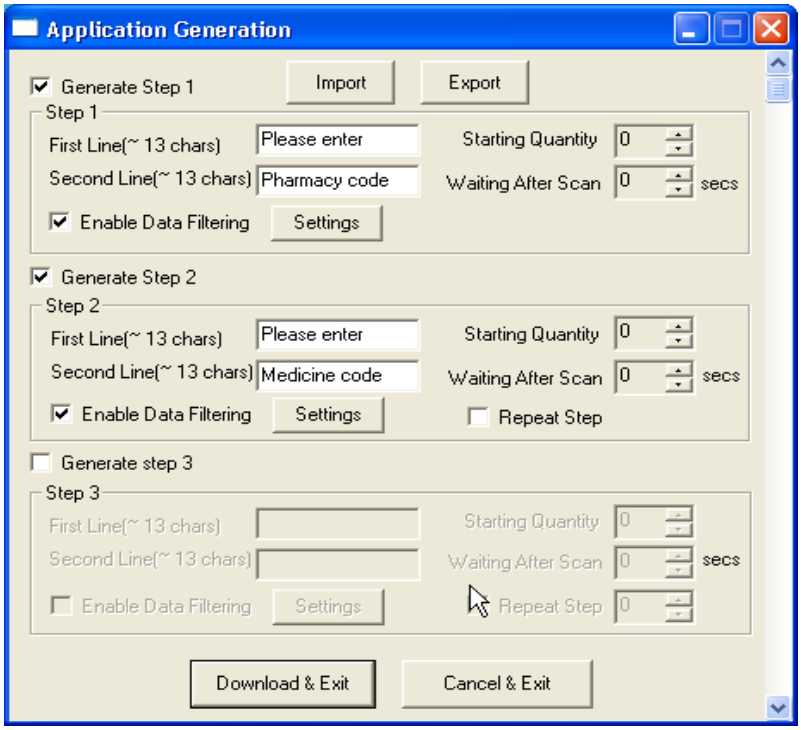

Figure 37 - Application Generation Menu

Generate Application

Generate step *1 - To generate a custom application, click on the Generate Step 1 box. This enables the user to define the user prompts and data collection settings for Step 1 of the custom application. Below is a description of each field. These prompts are the same when selecting Generate step 2 and Generate step 3.*

Note The custom application can include only Step 1.

- First line
  Enter up to 13 characters; these will display on the first line of the KDC.
- Second line
  Enter up to 13 characters; these will display on the second line of the KDC.
- Starting quantity
  Enter a predefined start quantity for each scanned barcode. The start quantity

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can be defined from 1 to 128. Use the up or down side key to choose the desired quantity.

- **Waiting to scan**
  Enter the number of seconds the KDC pauses before the user prompts display. During this timeout period, the user can modify the quantity. If this field is set to zero, the quantity field cannot be adjusted. This field can be defined from "-1" to "30" seconds. "-1" second enables infinite waiting of user quantity input.

- **Enable data filter**
  Check this box to enable the data filtering option. Data filtering allows the user to predefine different aspects of the barcode data the user are collecting.

Data Filter Settings

When the user select Enable data filtering, the user must click on the Settings button to select the Data filter setting. The options for the Data filter settings are the same for Step1, Step 2, and Step 3.

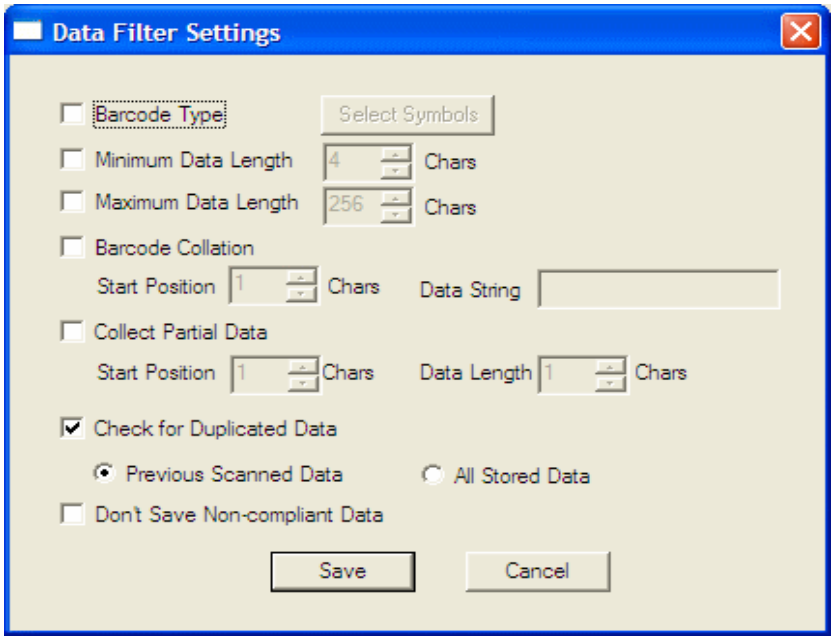

Figure 38 - Data Filter Settings

- **Barcode Type**
  This field allows the user to select the type of barcodes the KDC will collect. When the user clicks on the box, Select Symbols is enabled. A listing of the

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symbologies supported by the KDC will display. To select a barcode symbology, click on the box associated with the symbology.

- Minimum Data Length

  This field allows the user to define the minimum length of the scanned barcode. The length can be between 2 and 36(KDC350L), 2 and 48(KDC350C) characters. If the user scans a barcode that has a length of less than the defined length, the barcode data is not collected.

> **Note** The default KDC minimum barcode length defined in scan option is 4. Therefore, users should change KDC minimum barcode length to 2 or 3 to define minimum data length to 2 or 3.

- Maximum Data Length

  This field allows the user to define the maximum length of a scanned barcode. The defined length can be between 2 and 256 characters. If the user scans a barcode that has a length is greater than the defined length, the barcode data is not collected.

- Barcode Collation

  This option enables the user to define a data string that the KDC will use to compare scanned barcodes.

  - Starting Position – This is the start position of the scanned barcode data to be compared with the defined data string.
  - Data String – This is the defined value to be compared with scanned barcode data. This value can be up to 32 characters.

- Collect Partial Data

  This option allows the user to define partial barcode data to be collected when a barcode is scanned. Only the partial data will be stored in the KDC.

  - Start position – This is the starting position that the KDC will use when collecting scanned barcode data.
  - Data Length – This is the length of partial data to be stored by the KDC.

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- Check for Duplicated Data

  This option allows the user to prevent the collection of duplicate data.

  - Previous Scanned Data – This option allows the user to compare the scanned barcode with the previously scanned barcode and treat it as non-compliant data if the user scanned the same barcode twice.
  - All Stored Data – This option allows the user to compare the scanned barcode with stored barcode data and treat it as non-compliant data if the same barcode already scanned and stored.

- Do not Save Non-Compliant Data

  This field tells the KDC how to manage non-compliant data based on the defined data filtering fields. If this field is enabled, non-compliant data is NOT stored in the KDC. If this option is not enabled, non-compliant data is stored.

Generate step 2

To include another step in the data collection process, click the box, Generate step 2. This step has the same options as Step 1. In this step, the user have the option of repeating step 2 by clicking the box, Repeat Step.

Note This field is disabled when the application has three steps.

Generate step 3

To include a third step, click the box, Generate step 3. This step has the same options as step 1 and 2. In this step, the user has the option to repeat steps 2 or 3.

Application Download and Execution

Before running your application, it must be downloaded to KDC.

1. Click the "Download" icon from Application Generation Window.
2. Change KDC from Normal mode to Application mode.
   A. Press two side buttons simultaneously to enter menu mode.
   B. Select KDC mode and enter scan button.
   C. Change to Application mode.
   D. Save and exit from menu mode.
3. KDC will run in normal mode if you do not change to Application mode after downloading the application.
4. If you want to delete the downloaded application in your KDC, select App. Data in Reset Memory after you go to System Config in KDC Menu.

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6.2 Predefined Applications

KTSync provides four Predefined Applications: Master/Slave, Pick/Bin, DB Lookup and Inventory.

Master/Slave

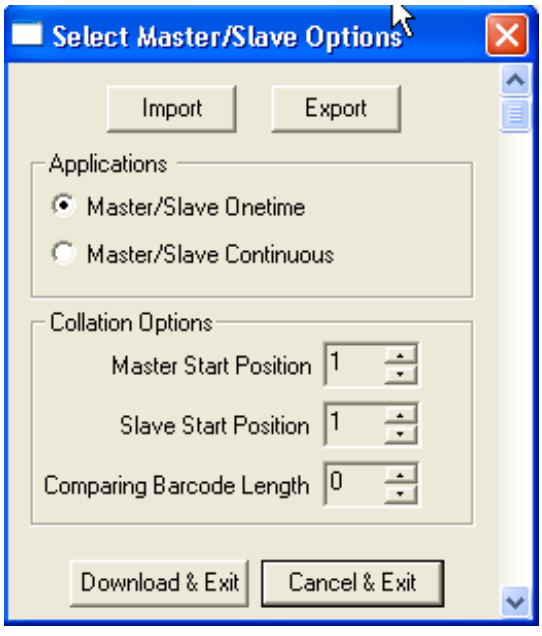
Master/Slave predefined application allows you to define a ***master*** barcode for comparison with one or more ***slave*** barcodes. The predefined application can be run once or continuously. Within either setting, you can define a substring for comparison of master and slave barcodes.

Master/Slave Onetime
Define one ***master*** barcode and compare it with one ***slave*** barcode.

Master/Slave Continuous
Define one ***master*** barcode and compare it with multiple ***slave*** barcodes.

Collation Options
Works in either Onetime or Continuous Mode to compare a substring within the master and slave barcodes.

- Master start position - Select the numeric position of start substring character in Pick barcode, 1 to 255.
- Slave start position - Select the numeric position of start substring character in Pick barcode, 1 to 255.
- Comparing Barcode Length - Number of characters to be compared, 0 to 255. 0 means all characters.



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Pick/Bin

The Pick/Bin predefined application is a special version of the Master/Slave predefined application. The Pick/Bin application allows you to define the Pick ID and the barcode symbology for comparison with a defined Bin.

- **Number of ID and Symbology**

  Define Pick ID characters from 1 to 32 and the barcode symbology.

Figure 39 - Master/Slave Application Settings

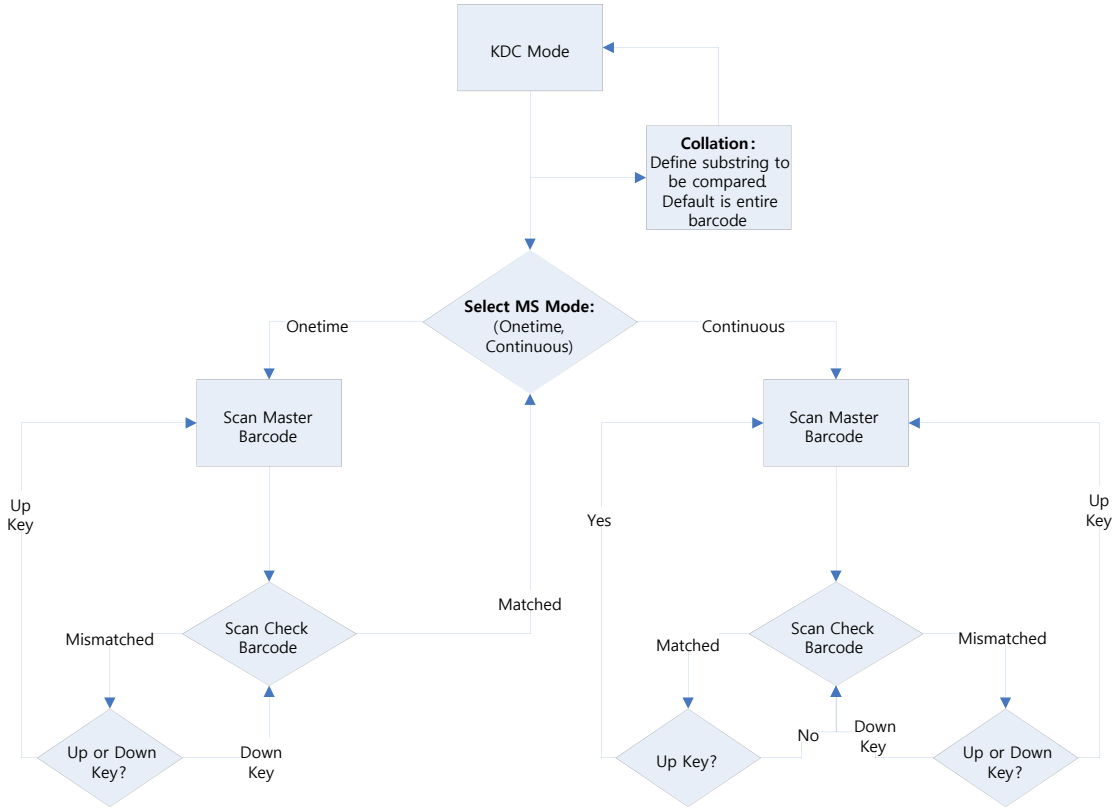

Figure 40 - Master/Slave Application Flow Chart

- **Pick Start Position and Symbology**

  Select numeric position of start substring character in Pick barcode from 1 to 255 and the barcode symbology.

- **Bin Start Position and Symbology**

  Select the numeric position of start substring character in Bin barcode from 1 to 255 and the barcode symbology.

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- Comparing Barcode Length

  Select the number of characters to be compared from 0 to 255. 0 means all characters.

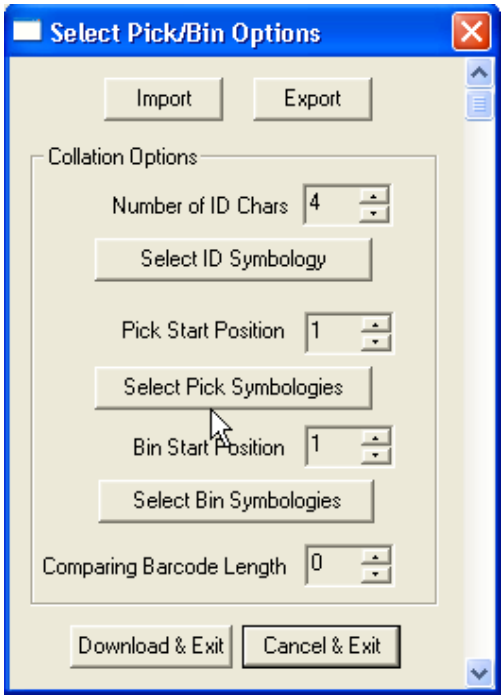

Figure 41 - Pick/BIN Application Menu

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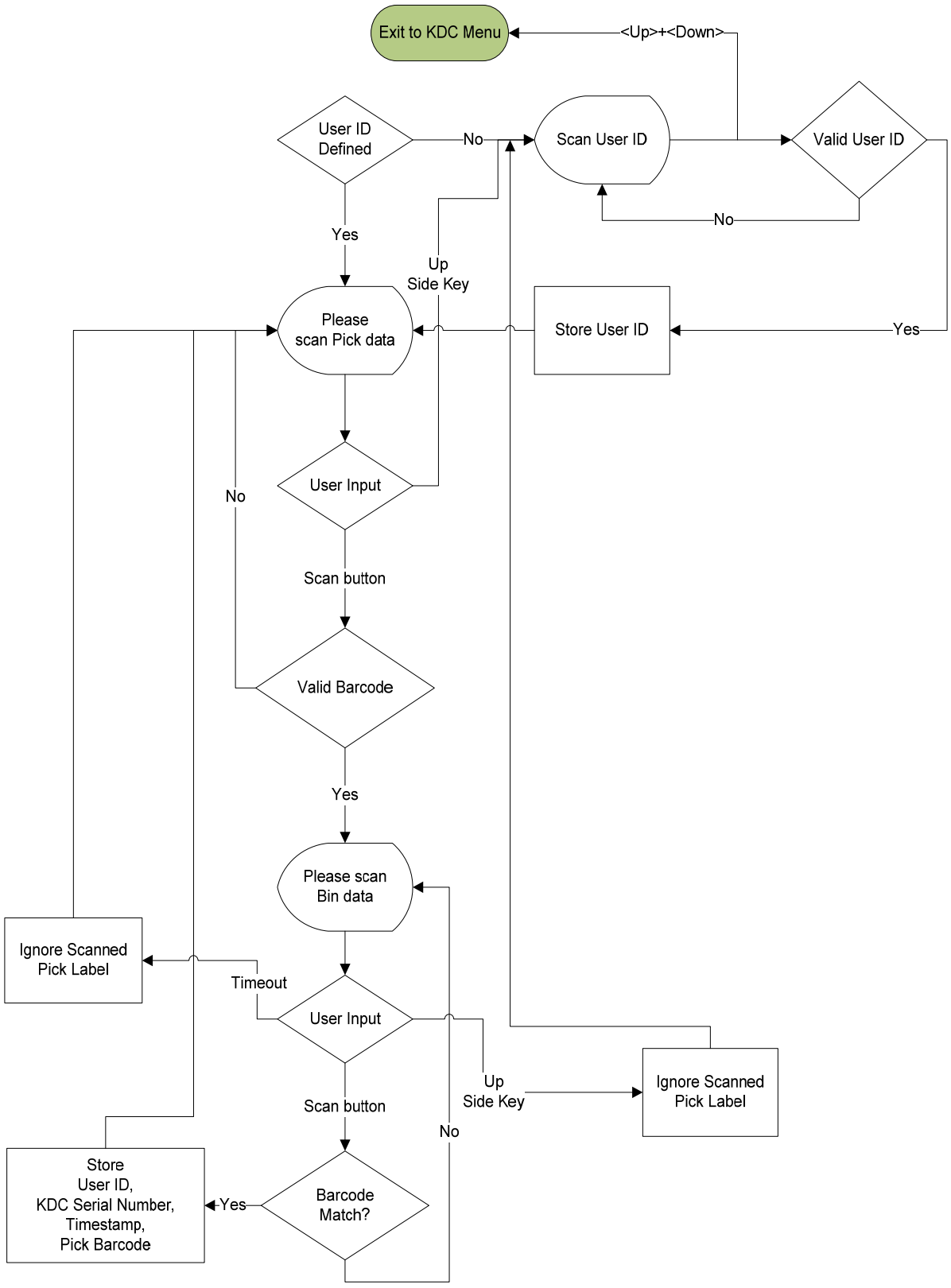

Figure 42 - Pick/BIN Application Flow Chart

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DB Lookup Application

The DB Lookup application allows you to download a database to the KDC that can then be utilized for advanced AUTO-ID applications, such as displaying additional data after scanning a barcode. For example, using our DB Lookup application, you can download a product database including information such as description, price, and stock quantity. With the advanced data functionality built-in to the KDC, you can easily display product price, description, and stock level after the product's barcode is scanned.

Functionality of DB Lookup Application

- The database size cannot exceed 800 records.
- The maximum record size is 128 bytes.
- Each record can have up to 4 fields, including the barcode, which is the primary key.
- The maximum field size is 39 characters.
- Quantities can be entered by pressing the UP or DOWN scroll buttons after DB fields are displayed.
- Quantity can be 1 to 128.
- The user can create a database using Microsoft Excel.
  1. Excel file must be saved as .txt.
  2. Records should be separated by CR/LF.
  3. Fields should be separated by TAB.
  4. Database should end with CR/LF.
  5. Last 4 bytes of database should be CR/LF/CR/LF.

DB Lookup Fields and Settings

- **Download DB to KDC -** Downloads user created database to KDC.
- **Starting Quantity -** Enter predefined start quantity for each scanned barcode. The start quantity can be defined from 1 to 128 and can be adjusted using UP or DOWN buttons.
- **Barcode Field -** Select the position of barcode field in database from 1 to 4.
- **Stored Barcode Start Position -** Select the numeric position of start substring character of barcode in database from 1 to 39.
- **Scanned Barcode Start Position -** Select the numeric position of start substring character of scanned barcode from 1 to 39.

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- **Comparing Barcode Length -** Number of characters to be compared from 0 to 255 where 0 is all characters.
- **Display on KDC -** Define database fields to be displayed on KDC. KDC can display one to three fields. KDC will display one field in two or three lines, if same field is specified in line entering option.

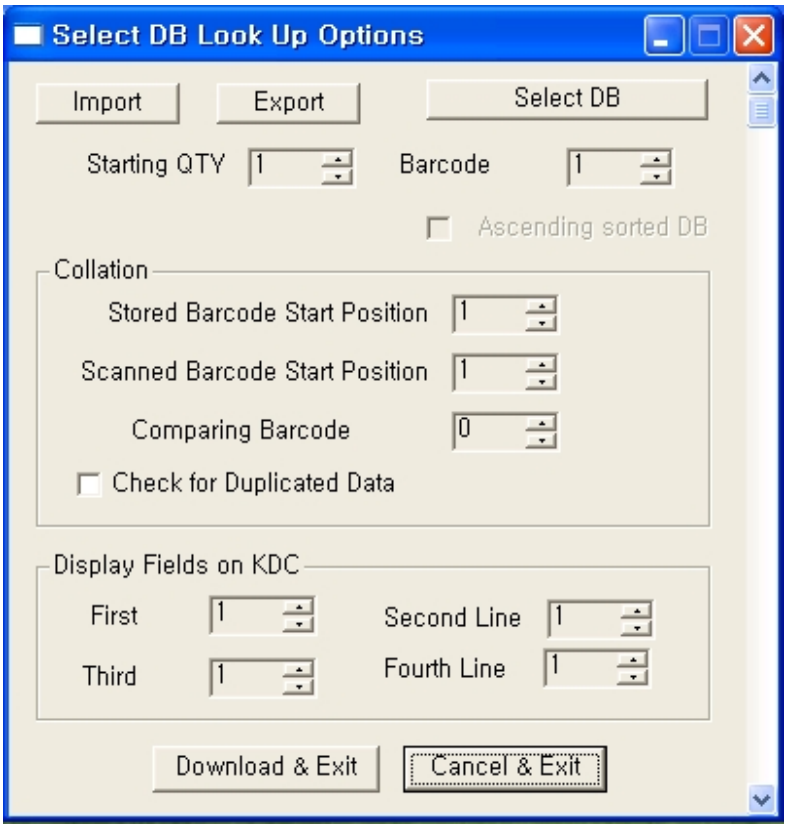

Figure 43 - DB Lookup Application Menu

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Inventory Application

The Inventory application allows the user to count inventories by scanning inventory barcodes. This application will increase inventory item count if the same item is scanned. Users can also download an inventory database to the KDC. If inventory DB is downloaded, KDC will display inventory description after scanning a barcode.

Functionality of Inventory Application

- The inventory cannot exceed 800 items.
- The maximum record size is 128 bytes.
- Each record can have up to 4 fields, including the barcode, which is the primary key.
- The maximum field size is 39 characters.
- Quantities 1 to 32786 can be entered by pressing the UP or DOWN buttons after inventory is scanned.
- Starting Quantity can be 1 to 128.
- Min/Max. Data Length is between 2 to 256 (KDC100/200/250/350L) or 4 to 256 (KDC300/350C).
- Barcode Collation Start Position is between 1 to 256.
- The length of Collation Data String is between 1 to 30.
- Collect Partial Data Start Position is between 1 to 256.
- Collect Partial Data Length is between 1 to 256.
- Users can create an inventory database using Microsoft Excel.
  - Excel file must be saved as .txt.
  - Click **User Inventory DB** option to display inventory description.
  - Click **Do not add non-existing item into DB** if one do not wish to add new items into inventory DB.
  - The number of Barcode Data Field is between 1 to 4.
  - The position of Display Filed is between 1 to 4.

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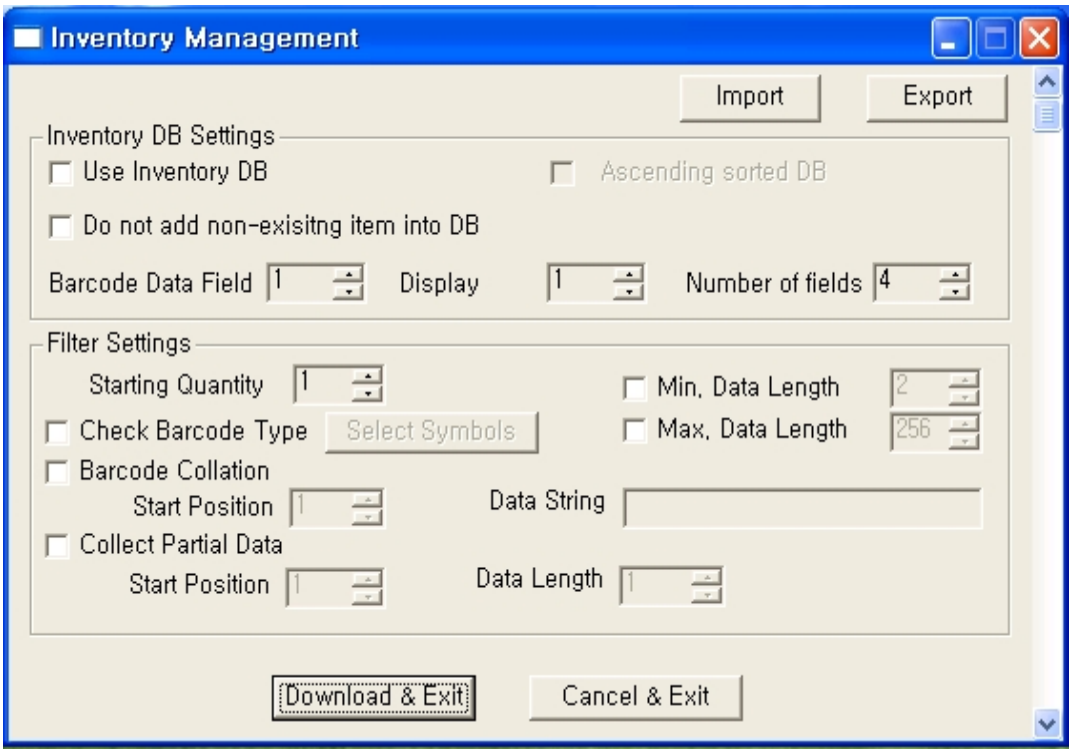

Figure 44 - Inventory Application

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7. Troubleshooting

PROBLEM	CAUSE	SOLUTION
KDC not working	Dead battery	● Charge battery by connecting KDC to your PC using the included cable
	Hardware failure	● Contact distributor for technical support
KDC not charging	Bad battery	● Replace battery – Contact Local Distributor
	Poor USB port	● USB port doesn't supply proper current to KDC - Charge KDC using a different USB port on your PC
Failed reading	Damaged barcode	● Scan a different barcode
	Out of scan range	● Move the scanner closer to barcode ● Move scanner farther from the barcode
	Incorrect angle	● Change the angle of scanner to barcode
	Symbology not supported	● Contact KOAMTAC - www.KOAMTAC.com for possibility of custom symbology support
	Scan options	● Check scan option settings
	Dirty scan window	● Clean scan window
	Damaged scan window	● Replace scan window
KDC reads wrong barcode	Dirty scan window	● Clean scan window
	Damaged scan window	● Replace scan window
	Poor quality barcode	● Select only necessary barcodes ● Increase minimum barcode length ● Increase security level
Can't communicate with PC, PDA, or smartphone	USB cable is not connected properly	● Check cable connection between KDC and host device
	Software is not working properly	● Reload the software
	COM configuration	● Check COM port configurations
LED blinks yellow	Low battery power	● Charge the battery by connecting KDC to PC. ● KDC will lose collected data if the battery is empty.
Buffer Full Message	Full Memory	● Clear the Memory using Synchronization program
Empty Battery Message	Empty battery	● Connect USB immediately. ● Synchronize the collected data and charge KDC
Abnormal KTSync Operation on DELL PC	Quickset Utility	● Disable Quickset Utility before using KTSync. ● Dell Quickset utility interrupts normal KTSync operation
	WSED Utility	● Disable WSED Wireless enable/disable utility

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		• delete the folder C:\Program Files\WSED, which contains a file WSED.exe, with the same icon as in the taskbar • Delete the registry entry KEY_LOCAL_MACHINE \SOFTWARE\Microsoft\Windows\Current Version\Run\WSED

Table 6 - Troubleshooting Techniques

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8. Warranty

LIMITED WARRANTY AND DISCLAIMERS

BY OPENING THE PACKAGE OF THIS PRODUCT YOU AGREE TO BECOME BOUND BY THE LIABILITY AND WARRANTY CONDITIONS AS DESCRIBED BELOW.

UNDER ALL CIRCUMSTANCES, THIS MANUAL SHOULD BE READ ATTENTIVELY, BEFORE INSTALLING AND OR USING THE PRODUCT.

Serial Number

A serial number appears on the KDC label. This official registration number is strictly related to the device purchased. Make sure that the serial number appearing on your KDC is not removed. Removing the serial number will affect the warranty conditions and liability disadvantageously, so please maintain the label with serial number on the KDC. Units with the serial number label removed should not be operated.

Warranty/Warranty Period/Liability

KOAMTAC, Inc. ("KOAMTAC") manufactures its hardware products in accordance with industry-standard practices. Unless otherwise agreed in a contract, KDC is warranted for a period of one year after purchase, covering defects in material and workmanship except rechargeable battery. KOAMTAC will repair or, at its opinion, replace products that prove to be defective in material or workmanship under proper use during the warranty period. KOAMTAC will not be liable in cases (i) in which the unit has been repaired or altered unless done or approved by KOAMTAC, (ii) in which the unit has not been maintained in accordance with any operating or handling instructions supplied by KOAMTAC, (iii) in which the unit has been subjected to unusual physical or electrical stress, misuse, abuse, power shortage, negligence or accident or (iv) in which the unit has been used other than in accordance with the product operating and handling instructions. Preventive maintenance is the responsibility of the customer and is not covered under this warranty. Under no circumstance will KOAMTAC be liable for any direct, indirect, consequential or incidental damages arising out of use or inability to use either the hardware or software, even if KOAMTAC has been informed about the possibility of such damages.

Warranty Coverage and Procedure

During the warranty period, KOAMTAC will repair or replace defective products returned to KOAMTAC warehouse. International customers should contact the local KOAMTAC office or support center. If warranty service is required, KOAMTAC will issue a Return Material Authorization Number. Products must be shipped in the original or comparable package, shipping and insurance charges prepaid. KOAMTAC will ship the repaired or replacement product freight and insurance prepaid. Customer accepts full responsibility for its software and data including the appropriate backup thereof. Repair or replacement of a product during warranty will not extend the original warranty term.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

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9. Contact Information

KOAMTAC

CORPORATE HEADQUARTERS

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Princeton, NJ 08540, USA

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Email: support@koamtac.com

For more information, visit our website - www.KOAMTAC.com

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10. Appendix A – Barcode & Scan Options

The process for scanning and reading barcodes is delicate and complicated. Although the KDC is equipped with a high performance scan engine, if configured incorrectly, it may not perform at its peak performance level. To ensure its high performance, the KDC comes configured to optimize its scan engine technology. Unless you clearly understand the impact of your changes to the KDC settings, please do not change factory default settings.

10.1 Symbologies

KOAMTAC's KDC products support most major barcode symbologies including 1D, 2D, Postal, and OCR-Fonts. Below is the list of the barcode symbologies supported by the KDC with respect to each model's particular area of support. To ensure superior scan performance, remember to select only the required symbologies.

	KDC20/100/200/250/350L/ 410/415	*KDC30/300/350C/420/425/450*
1D Barcodes	EAN13, EAN8, UPCA, UPCE, Bookland EAN, EAN13 with Addon, EAN8 with Add-on, UPCA with Add-on, UPCE with Add-on, Interleave 2 of 5, ITF14, Code128, Codabar, GS1-128, Code39, Code93, & Code35	Codabar, Code11, Code32, Code39, Code128, EAN8, EAN13, GS1-128, I2of5, MSI, Plessey, PosiCode, GS1 DATABAR OMNI, GS1 Limited, GS1 Expanded, S2of5IA, S2of5ID, TLC39, Telepen, Trioptic, UPCA, & UPCE
2D Barcodes	*N/A*	AztecCode, AztecRunes, CodablockF,Code 16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, & QRCode and HanXin Code
Postal Barcodes	*N/A*	AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), & UKPost
OCR Fonts	*N/A*	OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, & OCRSEMIFONT

Table 7 - Symbologies Supported by KDC

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Bookland EAN vs. EAN-13

Bookland EAN, which includes ISBN, ISSN, and ISMN, is supported by the KDC. This group of symbologies is essentially an EAN-13 barcode with fixed prefixes; 977 for ISSN, 978 for ISBN, and 979 for ISMN. If EAN-13 and Bookland EAN are both enabled, Bookland EAN takes precedence. Bookland EAN does not have any options. The Bookland EAN barcode does not contain any groupings – that is, there are no hyphens or separators. Thus, the ISBN 957-630-239-0 is transmitted as 9576302390.

Add-on Symbologies

By default, the 2 or 5 digit add-on symbols with a UPCE, UPCA, EAN-8, and EAN-13 barcode are neither decoded nor transmitted. Transmission for these specific symbologies is enabled by setting the appropriate *withAddon* options. There are 4 *withAddon* options, one for each symbology:

- UPCEwithAddon
- UPCAwithAddon
- EAN8withAddon
- EAN13withAddon

The decoding of add-on symbols are defined by the following table, which explains the process for EAN-13 symbols.

Mode	Behavior	Value of flags	
Auto-discrimination	If add-on symbol is present, then it is also decoded; otherwise, only the EAN-13 symbol is decoded.	true	true
With add-on	Only EAN-13 barcodes with 2 or 5 add-on symbols are decoded.	false	true
Without add-on	The add-on symbol is ignored.	true	false

Table 8 - Add-on for EAN-13 Symbology

The add-on symbol is appended to the EAN-13 barcode. The process is similar for UPCE, UPCA, and EAN-8 barcodes. Note that all the UPCE, UPCA, EAN-8, and EAN-13 formatting and conversion options are in effect. The following table should help explain the effect of various options for EAN-8 barcode 12345670 + 12.

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Barcode	EAN8_as_EAN13	EAN8_Return CheckDigit	EAN13_ReturnCh eckDigit
1234567012	False	True	N/A
123456712		False	
00000123456712	True	N/A	False
000001234567012			True

Table 9 - Add-on for EAN-8 Symbology

The add-on symbol contains neither a check digit nor a terminating guard band. Every effort has been made to reduce the decoding error; however, it is likely to decode a partial scan of a 5-digit add-on symbol as a 2-digit add-on symbol. It is strongly recommended that the minimum security level be set at 2 while decoding add-on symbols. Since the decoder takes a conservative view on the add-on symbols, it is likely that the add-on symbol will be missed in the auto-discrimination mode. Auto-discrimination mode should then be avoided.

10.2 Code Options (KDC20/30/100/200/250/410/415)

The KDC supports the following barcode options:

- Transmission of start and stop characters
- Reverse direction
- Symbology conversion
- Verification of optional check character
- Transmission of check digit
- Transmission of Start and Stop Characters

For Codabar symbols, the user can choose not to transmit the start and stop symbols, the NOTIS Editing. By default, they are transmitted. Setting the field **CodaBar_NoStartStopChars** to true disables the transmission.

Reverse Direction

This option may be selected if direction oriented symbologies are designated, such as Code35.

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Symbology Conversion

By default the EAN-8, UPCE, and UPCA symbols are transmitted in their native format. However, it is possible to show them in a different format. The user can choose to display UPCE symbols as either UPC-A or EAN-13 symbols, EAN-8 symbols as EAN-13 symbols, or UPC-A symbols as EAN-13 symbols. The following table shows the effect of setting various options.

Option	EAN-8	UPC-A	UPC-E	All others
EAN8_as_EAN13	Converted to EAN-13	No effect	No effect	No effect
UPCA_as_EAN13	No effect	Converted to EAN-13	No effect	
UPCE_as_EAN13	No effect	No effect	Converted to EAN-13	
UPCE_as_UPCA	No effect	No effect	Converted to UPC-A	

Table 10 - Symbology Conversion

Verification of Optional "Check Digit"

Code39 and Interleave 2 of 5 have an optional check digit, which, by default, is not verified. Changing the option **VerifyCheckDigit** to true can enable their verification, or the user can enable the verification for individual symbologies. If the check digit verification fails, the barcode is not transmitted.

Option Selected	Verify Code39 check digit	Verify I2of5 check digit
VerifyCheckDigit	Yes	Yes
Code39_VerifyCheckDigit	Yes	No effect
I2of5_VerifyCheckDigit	No effect	Yes

Table 11 - Verification of Optional "Check Digit"

Transmission of "Check Digit"

By default, the check digit – optional or mandatory – is not transmitted. Its transmission can be enabled for all symbologies by enabling **ReturnCheckDigit** option.

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Option Selected	Is the check digit returned?					
ReturnCheckDigit	Yes	Yes	Yes	Yes	Yes	Yes
EAN13_ReturnCheckDigit	Yes	No effect	No effect	No effect	No effect	No effect
EAN8_ReturnCheckDigit	No effect	Yes	No effect	No effect	No effect	No effect
UPCA_ReturnCheckDigit	No effect	No effect	Yes	No effect	No effect	No effect
UPCE_ReturnCheckDigit	No effect	No effect	No effect	Yes	No effect	No effect
Code39_ReturnCheckDigit	No effect	No effect	No effect	No effect	Yes	No effect
I2of5_ReturnCheckDigit	No effect	No effect	No effect	No effect	No effect	Yes

Table 12 - Transmission of "Check Digit"

Resolution of Inconsistencies

Three types of inconsistencies could arise in the assignment of symbology options. The decoder has pre-defined strategies to resolve these inconsistencies: If **UPCE_as_EAN13** is true, then **UPCE_as_UPCA** is ignored.

If symbology conversion is selected but the target symbology is not enabled, then the decoder still outputs the symbol in the target symbology. For example, suppose UPC-E is enabled and **UPCE_as_EAN13** is true but EAN-13 is disabled. All UPC-E symbols will be shown as EAN-13 and EAN-13 options (if specified) will be applied. For the two symbologies that have optional check digits, Code39 and Interleave 2 of 5, the decoder will always transmit the check digit if the verification is disabled.

Verify Check Digit	Return Check Digit	Description
Disabled	Enabled or Disabled	Check digit is not verified but is transmitted
Enabled	Disabled	Check digit is verified but is not transmitted
Enabled	Enabled	Check digit is verified and is transmitted

Table 13 - Resolution of Inconsistencies

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10.3 Miscellaneous Barcode Information

Height of a Linear Barcode

Industry standards suggest a height of either 6.5mm or 15% of the symbol length, whichever is greater. Symbols of less than recommended heights may cause recognition problems.

Check Characters

Yes, we recommend the use of check-characters in barcodes. Operating without check-characters is not safe and will lead to errors that are costly to correct. Using check-characters positively affects data integrity, especially when character density is at the limits and/or image quality is not at its best.

Prevent Interleave 2 of 5 Partial Reading

A partial scan of an Interleave 2 of 5 symbols may decode and cause incorrect data to be read. To prevent partial scans on long symbols, the user should include bearer bars. These bars run along the top and bottom edges of the barcode in the scanning direction. If a partial scan of the barcode occurs, the scanning beam will hit the bearer bar and will not decode. The bearer bar must touch the top and bottom of all the bars and must be at least 3 times as wide.

Another solution for the short scanning problem is to fix all Interleave 2 of 5 symbols to a set number of digits. Zeros can be used to pad the data to the set number of digits. The application program would then be set to only accept scans of the correct number of digits.

Finally, a check digit may be used. The Interleave 2 of 5 symbology has an optional check character that uses a weighted Modulo 10 scheme. The check character is the last character in the symbol and should be checked by the decoder and then transmitted with the data. Since Interleave 2 of 5 must always have an even number of digits, the leftmost character may need to be a zero when the check character is added. The standard check digit is calculated by assigning alternating 3,1,3,1… weights to respective data digits. These weights are then multiplied by their respective data digits and the products are summed. The check digit is the digit that needs to be added to the sum to make it an even multiple of 10. An example would be if the sum of the products was 37, then the check digit would be 3.

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Equation to Determining Potential Number of Stored Barcodes

The number of barcodes that can be stored in the KDC memory depends on the size of the barcodes.

Example: *If only UPCA barcodes are scanned and the check digit is not transmitted, then each barcode takes up 11 (barcode data) + 2 (added bytes) + 2 (length and type) + 4 (time stamp) = 19 bytes. The maximum number of UPCA barcodes that can be saved is 204,800/19 =10,778. However, KDC has limited the maximum number of barcode to 10,240 and users cannot store more than 10,240 barcodes in 2.85/86 version. 3.0x version allows the user to store maximum 204,800 barcodes.*

Data Buffer Full

When the data buffer is full, the KDC displays a message, **Buffer Full**, ignoring any command to scan barcodes. The user must reset the data buffer to continue data collection.

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11. Appendix B –FAQ

11.1 Symbology

Q: What barcode symbologies are supported by the KDC?

A: The KDC20/100/200/250/350L/410/415 support 1D barcode only.
KDC30/300/350C/420/425/450 support most major 1D, 2D barcode symbologies and OCR.

KDC30/300/420/425

2D Barcodes

AztecCode, AztecRunes, CodablockF, Code16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, QRCode, and HanXin Code

1D Barcodes

Codabar, Code11, Code32, Code39, Code128, EAN8, EAN13, GS1-128, I2of5, MSI, Plessey, PosiCode, GS1 DATABAR OMNI, GS1 Limited, GS1 Expanded, S2of5IA, S2of5ID, TLC39, Telepen, Trioptic, UPCA, and UPCE

Postal Barcodes

AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), and UKPost

OCR Fonts

OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, and OCRSEMIFONT

KDC20/100/200/250/410/415

1D Barcodes

EAN13
EAN8
UPCA
UPCE
Bookland EAN
EAN13 with Add-on
EAN8 with Add-on
UPCA with Add-on
UPCE with Add-on
Interleave 2 of 5
ITF14
Code128
Codabar
GS1-128
Code39
Code93
Code35

Table 14 – Symbologies supported by KDC

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11.2 Host Interface

Q: What interface ports are supported by the KDC?
A: The KDC100 has two USB ports: Swing-out Type A and ultra mini USB ports that support USB to Serial protocol. KDC200/250/300/350/400 have one ultra mini USB port that supports USB to Serial protocol and Bluetooth that supports HID/SPP/MFi *Bluetooth* profiles. KDC20/30 have one Swing-out Type A USB port which supports USB to Serial protocol and Bluetooth with HID, SPP and MFi *Bluethooth* profiles.

11.3 Battery

Q: How long will the KDC battery last before it needs to be replaced?
A: The battery on the KDC can be charged at least 300 times before it needs to be replaced.

Q: How long does it take to charge the KDC?
A: It takes about 2 hours to charge the KDC20/100/200, 4 hours to charge the KDC30/250/300, and 5 hours to charge the KDC350/400.

Q: How many barcodes can a fully charged KDC scan?
A: If the user scans a barcode every 1 seconds, KDC100 scans more than 15,000 barcodes, KDC20 scans more than 9,000 barcodes, KDC200 scans more than 7,500 barcodes, KDC250 scans more than 25,000 scans, KDC30/300 scans more than 20,000 scans and KDC350/400 scan more than 40,000.

Q: How long will the KDC battery lasts in the sleep mode?
A: **KDC100** lasts more than 75 days. **KDC20/200** lasts more than 2 days while connected in Bluetooth and 60 days if not connected in Bluetooth. **KDC250** lasts 7 days while connected in Bluetooth and 120 days if not connected in Bluetooth. **KDC30/300** last more than 25 days while connected in Bluetooth and 5 days if not connected in Bluetooth. **KDC350** lasts more than 12 hours while GPS is active and Bluetooth is connected, 7 days while GPS is not active and Bluetooth is connected, and 20 days while GPS is not active and Bluetooth is not connected. **KDC410/415/420/425/430** last more than 8 days while connected in Bluetooth and 20 days while if not connected in Bluetooth. **KDC450** lasts more than 4 hours while reading RFiD tag continuously every second and Bluetooth is connected, 5 days if reading RFiD tag casually and Bluetooth is connected.

Q: Can I replace the KDC battery?
A: Yes. The KDC has a separate compartment for the battery that can be opened easily with a driver. KDC batteries can be purchased at www.KOAMTACstore.com or from local KDC reseller.

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11.4 Memory

Q: How many barcodes can be stored in the KDC?
A: KDC100M/200M/250M/300M/350 have 4MB data memory which can store maximum of 204,800 barcodes. KDC20/30 have 160KB data memory which can store maximum 10,240 barcodes. KDC400 has 100KB data memory.

Q: Can I download stored barcodes or wedge barcodes to my application?
A: Yes. KTSync® is keyboard wedging, application generation, DB look up, and inventory program bundled with the KDC200/250/300/350, which supports host devices running on Android®, iPhone/iPad/iPod touch, Blackberry®, Windows® XP/Vista/7/Mobile5.0+. KTSync® provides keyboard wedging program only for KDC20/30/400 and KDC100 only supports Windows XP/Vista/7 version.

Q: Does the KDC support *Android®*, *iPhone/iPad/iPod touch®*, *Blackberry®*, Mac® and *Windows®* devices?
A: KTSync® currently supports Android®, iPhone/iPad/iPod touch, Blackberry®, Mac® and Windows® devices.

11.5 Programming

Q: Can the KDC be programmed by a KOAMTAC partner?
A: Yes. KOAMTAC's Application Generation tool provides an enhanced programming environment for developing custom applications for the KDC.

1. KDC supports, at most, three step data collection processes, including the ability to perform various data functionality features.
2. KDC's database lookup function provides enhanced data processes, enabling the KDC to display database results with or without scanned barcode data.
3. KDC can display a message from the Host by enabling two-way communications and a messaging application.

Q: Does KOAMTAC provide customization services for the KDC?
A: Yes. Custom applications or projects can be developed by KOAMTAC engineers. This service is provided for an additional fee to KOAMTAC. For more information regarding this service, please contact KOAMTAC.

Q: Can a partner develop a PC or Smartphone application for the KDC?
A: A software development kit for Windows® XP/Vista/7/Mobile5.0+ and Android is available on KOAMTAC support page. Android®, iPhone/iPad/iPod touch, Blackberry®, and Mac® SDK are available through KOAMTAC authorized distributors.

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12. Appendix C – 1D Special Barcodes (KDC20/100/200/250/350L/410/415)

12.1 Set Symbologies

Enable EAN13 2000001	Disable EAN13 2100001
Enable EAN8 2000002	Disable EAN8 2100002
Enable UPCA 2000004	Disable UPCA 2100004
Enable UPCE 2000008	Disable UPCE 2100008
Enable Code39 2000010	Disable Code39 2100010
Enable ITF14 2000020	Disable ITF14 2100020

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Enable Code128 2000040	Disable Code128 2100040
Enable I2 of 5 2000080	Disable I2 of 5 2100080
Enable Codabar 2000100	Disable Codabar 2100100
Enable GS1-128 2000200	Disable GS1-128 2100200
Enable Code93 2000400	Disable Code93 2100400
Enable Code35 2000800	Disable Code35 2100800
Enable Bookland EAN 2001000	Disable Bookland EAN 2101000
Enable EAN13 with Addon 2002000	Disable EAN13 with Addon 2102000

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Enable EAN8 with Addon 2004000	Disable EAN8 with Addon 2104000
Enable UPCA with Addon 2008000	Disable UPCA with Addon 2108000
Enable UPCE with Addon 2010000	Disable UPCE with Addon 2110000

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12.2Barcode Options

Codabar - do NOT transmit start/stop 3000000001	Codabar - transmit start/stop 3100000001
Convert UPCE to UPCA 3000000200	Do NOT convert UPCE to UPCA 3100000200
Convert EAN8 to EAN13 3000000400	Do NOT convert EAN8 to EAN13 3100000400
Convert UPCE to EAN13 3000000800	Do NOT convert UPCE to EAN13 3100000800
Return Check Digit 3000001000	Do NOT Return Check Digit 3100001000
Verify Check Digit 3000002000	Do NOT Verify Check Digit 3100002000
Convert UPCA to EAN13 3000080000	Do NOT Convert UPCA to EAN13 3100080000

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Verify check digit for I2of5 3000400000	Do NOT verify check digit for I2of5 3100400000
Verify check digit for Code39 3000800000	Do NOT verify check digit for Code39 3100800000
Return check digit for I2of5 3004000000	Do NOT return check digit for I2of5 3104000000
Return check digit for Code39 3008000000	Do NOT return check digit for Code39 3108000000
Return check digit for UPCE 3010000000	Do NOT return check digit for UPCE 3110000000
Return check digit for UPCA 3020000000	Do NOT return check digit for UPCA 3120000000
Return check digit for EAN8 3040000000	Do NOT return check digit for EAN8 3140000000

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Return check digit for EAN13	Do NOT return check digit for EAN13
3080000000	3180000000

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12.3 Delete Last Scanned Barcode

Delete Last Scanned Barcode

80001

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12.4 Scan Options

Wide Scan Angle 3000004000	Narrow Scan Angle 3100004000
Normal Filter Mode 3100008000	High Filter Mode 3000008000
Enable Auto Trigger 5A001	Disable Auto Trigger 5A010
Reread Delay = Continuous 5B000	Reread Delay = Short 5B001
Reread Delay = Medium 5B002	Reread Delay = Long 5B003
Reread Delay = Extra Long 5B004	

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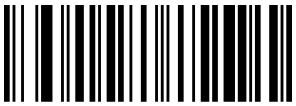
12.5Scan Timeout

Scan Timeout = 500msec 101F4	Scan Timeout = 1sec 103E8
Scan Timeout = 2sec 107D0	Scan Timeout = 3sec 10BB8
Scan Timeout = 4sec  10FA0	Scan Timeout = 5sec 11388
Scan Timeout = 6sec 11770	Scan Timeout = 7sec 11B58
Scan Timeout = 8sec 11F40	Scan Timeout = 9sec 12328
Scan Timeout = 10sec 12710	

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12.6Minimum Barcode Length

Minimum Length = 2 002	Minimum Length = 3 003
Minimum Length = 4 004	Minimum Length = 5 005
Minimum Length = 6 006	Minimum Length = 7 007
Minimum Length = 8 008	Minimum Length = 9 009
Minimum Length = 10 00A	Minimum Length = 11 00B
Minimum Length = 12 00C	Minimum Length = 13 00D
Minimum Length = 14 00E	Minimum Length = 15 00F

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Minimum Length = 16 010	Minimum Length = 17 011
Minimum Length = 18 012	Minimum Length = 19 013
Minimum Length = 20 014	Minimum Length = 21 015
Minimum Length = 22 016	Minimum Length = 23 017
Minimum Length = 24 018	Minimum Length = 25 019
Minimum Length = 26 01A	Minimum Length = 27 01B
Minimum Length = 28 01C	Minimum Length = 29 01D

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Minimum Length = 30 01E	Minimum Length = 31 01F
Minimum Length = 32 020	Minimum Length = 33 021
Minimum Length = 34 022	Minimum Length = 35 023
Minimum Length = 36 024	

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12.7 Security Level

Security level = 1 41	Security level = 2 42
Security level = 3 43	Security level = 4 44

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12.8 Data Process - Wedge/Store & Enter Key

Wedge Only 82000	Wedge & Store Always 82001
Store Only 82002	Save if Sent 82003
Save if Not Sent 82004	
Enable Enter Key (KDC350L Only) 8E001	Disable Enter Key (KDC350L Only) 8E000

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12.9 Data Process - Data Edit

Start Prefix Enter 83000	Start Suffix Enter 83001
Finish Prefix/Suffix Enter 83002	Cancel Prefix/Suffix Enter 83003
Delete Prefix 83004	Delete Suffix 83005
Display Prefix 83006	Display Suffix 83007
AIM ID None 8B000	AIM ID In Prefix 8B001
AIM ID In Suffix 8B002	

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12.10 Data Process - Data Format & Handshake

Data format = Barcode only 84001	Data format = Packet data 84010
Enable Handshake 86001	Disable Handshake 86010

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12.11 Data Process - Termination Character & Duplicate Check

Termination Character = None 88000	Termination Character = CR 88001
Termination Character = LF 88002	Termination Character = CR+LF 88003
Termination Character = Tab 88004	
Enable Duplicate Check 89001	Disable Duplicate Check 89010

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12.12 Bluetooth

Enable Bluetooth Power 60001	Disable Bluetooth Power 60010
Enter Pairing Mode 61001	
Enable Discovering 61101	Disable Discovering 61110
Connect To Last 61201	Connecting to 61301
Disconnect 6D000	
HID Sync 6E000	SPP Sync 6E001
Bluetooth Profile = SPP 6A000	Bluetooth Profile = HID iOS 6A001

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Bluetooth Profile = IPHONE 6A002	Bluetooth Profile = SPP2.0 6A003
Bluetooth Profile = HID Normal 6A004	
Enable Auto Connect 62001	Disable Auto Connect 62010
Enable Auto Reconnect 6R001	Disable Auto Reconnect 6R010
Enable Auto Power On 66001	Disable Auto Power On 66010
Enable Auto Power Off 64001	Disable Auto Power Off 64010
Enable Beep Warning 68001	Disable Beep Warning 68010
Enable Power Off Msg 63001	Disable Power Off Msg 63010

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Display BT MAC Address 63100	Display BT FW Version 63200
Enable Wakeup Nulls 63401	Disable Wakeup Nulls 63410
Enable BT Toggle 6B001	Disable BT Toggle 6B010
Enable BT Disconnect Button 6B101	Disable BT Disconnect Button 6B110

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12.13 Bluetooth Auto Power On Time

Auto Power On Time = Disabled 67000	Auto Power On Time = 1sec 67001
Auto Power On Time = 2sec 67002	Auto Power On Time = 3sec 67003
Auto Power On Time = 4sec 67004	Auto Power On Time = 5sec 67005
Auto Power On Time = 6sec 67006	Auto Power On Time = 7sec 67007
Auto Power On Time = 8sec 67008	Auto Power On Time = 9sec 67009
Auto Power On Time = 10sec 6700A	

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12.14 Bluetooth Power Off Time

BT Power Off Time = 1min 69001	BT Power Off Time = 2min 69002
BT Power Off Time = 3min 69003	BT Power Off Time = 4min 69004
BT Power Off Time = 5min 69005	BT Power Off Time = 6min 69006
BT Power Off Time = 7min 69007	BT Power Off Time = 8min 69008
BT Power Off Time = 9min 69009	BT Power Off Time = 10min 6900A
BT Power Off Time = 11min 6900B	BT Power Off Time = 12min 6900C
BT Power Off Time = 13min 6900D	BT Power Off Time = 14min 6900E

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BT Power Off Time = 15min 6900F	BT Power Off Time = 16min 69010
BT Power Off Time = 17min 69011	BT Power Off Time = 18min 69012
BT Power Off Time = 19min 69013	BT Power Off Time = 20min 69014
BT Power Off Time = 21min 69015	BT Power Off Time = 22min 69016
BT Power Off Time = 23min 69017	BT Power Off Time = 24min 69018
BT Power Off Time = 25min 69019	BT Power Off Time = 26min 6901A
BT Power Off Time = 27min 6901B	BT Power Off Time = 28min 6901C
BT Power Off Time = 29min 6901D	BT Power Off Time = 30min 6901E

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12.15 HID Auto Lock Time

HID Auto Lock Time = 0min (Never) 6C000	HID Auto Lock Time = 1min 6C001
HID Auto Lock Time = 2min 6C002	HID Auto Lock Time = 3min 6C003
HID Auto Lock Time = 4min 6C004	HID Auto Lock Time = 5min 6C005
HID Auto Lock Time = 10min 6C00A	HID Auto Lock Time = 15min 6C00F

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12.16 HID Keyboard

HID Keyboard = US 6F000	HID Keyboard = German 6F001
HID Keyboard = French 6F002	HID Keyboard = Italian 6F003
HID Keyboard = Spanish 6F004	

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12.17 HID Initial Delay

HID Initial Delay = Disabled H0000	HID Initial Delay = 1second H0001
HID Initial Delay = 2seconds H0002	HID Initial Delay = 3seconds H0003
HID Initial Delay = 5seconds H0005	HID Initial Delay = 10seconds H000A

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12.18 HID Character Delay

HID Character Delay = Disabled H1000	HID Character Delay = 10msec H100A
HID Character Delay = 20msec H1014	HID Character Delay = 30msec H101E
HID Character Delay = 50msec H1032	HID Character Delay = 100msec H1064

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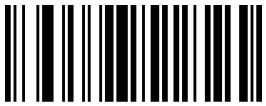
12.19 HID Control Character

HID Control Character = Disabled H2000	HID Control Character = Alt+Numpad  H2001
HID Control Character = ^+Character H2002	HID Control Character = Replace with '|' H2003

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12.20 System

Memory Size = 0.5M / 3.5M 5E000	Memory Size = 1M / 3M 5E001
Memory Size = 2M / 2M 5E002	Memory Size = 3M / 1M 5E003
Memory Size = 4M / 0M 5E004	Confirm Memory Size Change 5E100
Memory Status 50001	Reset Memory 50002
Erase Memory 50003	Reset App data 50004
Reset BT Registry 50005	
Enable Auto Erase 5F001	Disable Auto Erase 5F010

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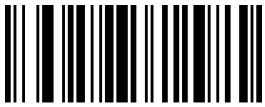
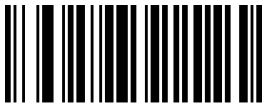
Date/Time 52001	Battery 53001
Display Version  54001	
Lock Button  55001	Unlock Button 55010
Enable Beep Sound 56001	Disable Beep Sound 56010
High Beep Volume 5D001	Low Beep Volume 5D010
Enable Auto Menu Exit 58001	Disable Auto Menu Exit 58010
Enable MFi Mode 6M001	Disable MFi Mode 6M010
Enable Vibrator 5G001	Disable Vibrator 5G010

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Enable Port Status 58101	Disable Port Status 58100
Display Format = Time & Battery 58200	Display Format = Type & Time 58201
Display Format = Type & Battery 58202	Display Format = Memory Status 58203
Display Format = GPS Data (GPS Model) 58204	Display Format = Barcode Only 58205
Enable Scrolling 59001	Disable Scrolling 59010
Factory Default 57001	KDC Reset A0000
Enable Backup Battery (KDC20 Only) 5R001	Disable Backup Battery (KDC20 Only) 5R010

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12.21 Sleep Timeout

Sleep Timeout = Disable 51000	Sleep Timeout = 1sec 51001
Sleep Timeout = 2sec 51002	Sleep Timeout = 3sec 51003
Sleep Timeout = 4sec 51004	Sleep Timeout = 5sec 51005
Sleep Timeout = 10sec 5100A	Sleep Timeout = 20sec 51014
Sleep Timeout = 30sec 5101E	Sleep Timeout = 1min 5103C
Sleep Timeout = 2min 51078	Sleep Timeout = 5min 5112C
Sleep Timeout = 10min 51258	

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12.22 ETC

Enable Reverse Direction 3000000002	Disable Reverse Direction 3100000002
Enable Verify check digit 3002000000	Disable Verify check digit 3102000000
Enable Return check digit 3001000000	Disable Return check digit 3101000000

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12.23 Function

F1 7001	F2 7002
F3 7003	F4 7004
F5 7005	F6 7006
F7 7007	F8 7008
F9 7009	F10 700A
F11 700B	F12 700C

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12.24 Number

0 7130	1 7131
2 7132	3 7133
4 7134	5 7135
6 7136	7 7137
8 7138	9 7139

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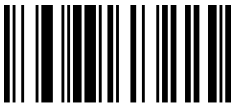
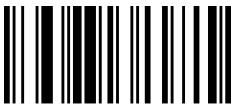
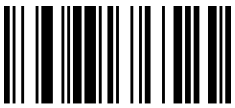
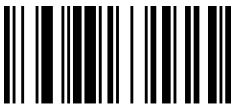
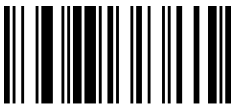
12.25 Lower Case Alphabet

a  7161	b 7162
c  7163	d 7164
e  7165	f 7166
g  7167	h 7168
i  7169	j 716A
k 716B	l 716C
m 716D	n 716E

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o 716E	p 7170
q 7171	r 7172
s 7173	t 7174
u 7175	v 7176
w 7177	x 7178
y 7179	z 717A

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12.26 Upper Case Alphabet

A 7141	B 7142
C 7143	D 7144
E 7145	F 7146
G 7147	H 7148
I 7149	J 714A
K 714B	L 714C
M 714D	N 714E

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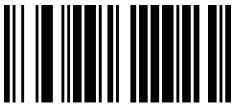
O 714F	P 7150
Q 7151	R 7152
S  7153	T 7154
U 7155	V 7156
W 7157	X 7158
Y 7159	Z 715A

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12.27 Control Character

BS 7108	TAB 7109
LF 710A	VT 710B
CR 710D	ESC 711B
Space 7120	DEL 717F
Shift + Tab 7111	

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12.28 Symbol Character

! 7121	" 7122
# 7123	$ 7124
% 7125	& 7126
' 7127	(7128
) 7129	* 712A
+ 712B	, 712C
- 712D	. 712E

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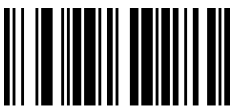
/ 712F	: 713A
; 713B	< 713C
= 713D	> 713E
? 713F	@ 7140
[715B	\ 715C
] 715D	^ 715E
_ 715F	`  7160

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{ 717B	| 717C
} 717D	~ 717E
Start String 7201	Stop String 7210

Note

- The user can compose a string up to 16 characters.
- A string would be composed by scanning the "Start-String", number/alphabet/special characters, and "Stop-String" special barcodes.
- The KDC will abort string composition if the user do not scan "Stop-String" in one minute after scanning "Start-String" and number/alphabet/special characters.

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12.29 GPS (GPS Model Only)

Enable GPS Power G0001	Disable GPS Power G0010
Enable GPS Bypass Data G1001	Disable GPS Bypass Data G1010
Reset GPS Module G2000	GPS Acquire Test G2001
GPS Power Save Mode = Normal G2002	GPS Power Save Mode = Power Saving G2003
Enable GPS Auto Power Off G3001	Disable GPS Auto Power Off G3010

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12.30 GPS/BT Auto Power Off Timeou

Auto Power Off = 0min (Disabled) G4000	Auto Power Off = 5min G4005
Auto Power Off = 10min G400A	Auto Power Off = 20min G4014
Auto Power Off = 30min G401E	Auto Power Off = 60min G403C
Auto Power Off = 120min G4078	

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12.31 NFC (NFC Model Only)

Enable NFC Power N0001	Disable NFC Power N0010
NFC Data Format = Data only N1001	NFC Data Format = Packet data N1000
UID Only = Enable N3001	UID Only = Disable N3000

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12.32 USB Disk (M Model Only)

USB Serial Mode U0000	USB Disk Mode U0001
Format USB Disk U1000	
Data Format = Data U2000	Data Format = Data, Time U2001
Data Format = Data, Type U2002	Data Format = Data, Time, Type U2003

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13. Appendix D – 2D Special Barcodes (KDC30/300/350C/420/425/450)

13.1 Set Symbologies

Please refer to Honeywell Adaptus® Technology enabled scanner user manual, such as 4600 or 4820.

13.2 Barcode Options

Please refer to Honeywell Adaptus® Technology enabled scanner user manual, such as 4600 or 4820.

13.3 Delete Last Scanned Barcode

Delete Last Scanned Barcode

ŦMKDC80001.

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13.4 Scan Options

Enable Auto Trigger TMKDC5A001.	Disable Auto Trigger TMKDC5A010.
Reread Delay = Continuous TMKDC5B000.	Reread Delay = Short TMKDC5B001.
Reread Delay = Medium TMKDC5B002.	Reread Delay = Long TMKDC5B003.
Reread Delay = Extra Long TMKDC5B004.	

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13.5 Scan Timeout

Scan Timeout = 500msec TMKDC101F4.	Scan Timeout = 1sec TMKDC103E8.
Scan Timeout = 2sec TMKDC107D0.	Scan Timeout = 3sec TMKDC10BB8.
Scan Timeout = 4sec TMKDC10FA0.	Scan Timeout = 5sec TMKDC11388.
Scan Timeout = 6sec TMKDC11770.	Scan Timeout = 7sec TMKDC11B58.
Scan Timeout = 8sec TMKDC11F40.	Scan Timeout = 9sec TMKDC12328.
Scan Timeout = 10sec TMKDC12710.	

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13.6 Minimum Barcode Length

Minimum Length = 2 *MKDC002. Minimum Length = 4 *MKDC004. Minimum Length = 6 *MKDC006. Minimum Length = 8 *MKDC008. Minimum Length = 10 *MKDC00A. Minimum Length = 12 *MKDC00C. Minimum Length = 14 *MKDC00E.	Minimum Length = 3 *MKDC003. Minimum Length = 5 *MKDC005. Minimum Length = 7 *MKDC007. Minimum Length = 9 *MKDC009. Minimum Length = 11 *MKDC00B. Minimum Length = 13 *MKDC00D. Minimum Length = 15 *MKDC00F.

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Minimum Length = 16 TMKDC010.	Minimum Length = 17 TMKDC011.
Minimum Length = 18 TMKDC012.	Minimum Length = 19 TMKDC013.
Minimum Length = 20 TMKDC014.	Minimum Length = 21 TMKDC015.
Minimum Length = 22 TMKDC016.	Minimum Length = 23 TMKDC017.
Minimum Length = 24 TMKDC018.	Minimum Length = 25 TMKDC019.
Minimum Length = 26 TMKDC01A.	Minimum Length = 27 TMKDC01B.
Minimum Length = 28 TMKDC01C.	Minimum Length = 29 TMKDC01D.

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Minimum Length = 30 TMKDC01E.	Minimum Length = 31 TMKDC01F.
Minimum Length = 32 TMKDC020.	Minimum Length = 33 TMKDC021.
Minimum Length = 34 TMKDC022.	Minimum Length = 35 TMKDC023.
Minimum Length = 36 TMKDC024.	

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13.7 Image Capture

Capture Now TMKDC90000.	Enable Image Capture TMKDC91001.
Image Format = JPEG TMKDC92006.	Image Format = BMP TMKDC92008.
Pixel Depth = 1 bit per pixel TMKDC93001.	Pixel Depth = 8 bit per pixel TMKDC93008.

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13.8 Data Process - Wedge/Store & Enter Key

Wedge Only TMKDC82000.	Wedge & Store Always TMKDC82001.
Store Only TMKDC82002.	Save if Sent TMKDC82003.
Save if Not Sent TMKDC82004.	
Enable Enter Key (KDC350C Only) TMKDC8E001.	Disable Enter Key (KDC350C Only) TMKDC8E000.

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13.9Data Process - Data Edit

Start Prefix Enter TMKDC83000.	Start Suffix Enter TMKDC83001.
Finish Prefix / Suffix Enter TMKDC83002.	Cancel Prefix / Suffix Enter TMKDC83003.
Delete Prefix TMKDC83004.	Delete Suffix TMKDC83005.
Display Prefix TMKDC83006.	Display Suffix TMKDC83007.
AIM ID None TMKDC8B000.	AIM ID In Prefix TMKDC8B001.
AIM ID In Suffix TMKDC8B002.	

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13.10 Data Process – Data Format & Handshake

Data format = Barcode only TMKDC84001.	Data format = Packet data TMKDC84010.
Enable Handshake TMKDC86001.	Disable Handshake TMKDC86010.

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13.11 Data Process - Termination Character & Duplicate Check

Termination Character = None TMKDC88000.	Termination Character = CR TMKDC88001.
Termination Character = LF TMKDC88002.	Termination Character = CR+LF TMKDC88003.
Termination Character = Tab TMKDC88004.	
Enable Duplicate Check TMKDC89001.	Disable Duplicate Check TMKDC89010.

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13.12 Bluetooth

Enable Bluetooth Power *MKDC60001.	Disable Bluetooth Power *MKDC60010.
Enter Pairing Mode *MKDC61001.	
Enable Discovering *MKDC61101.	Disable Discovering *MKDC61110.
Connect To Last *MKDC61201.	Connect To *MKDC61301.
Disconnect *MKDC6D000.	
HID Sync *MKDC6E000.	SPP Sync *MKDC6E001.
Bluetooth Profile = SPP *MKDC6A000.	Bluetooth Profile = HID iOS *MKDC6A001.

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Bluetooth Profile = IPHONE ┬MKDC6A002.	Bluetooth Profile = SPP2.0 ┬MKDC6A003.
Bluetooth Profile = HID Normal ┬MKDC6A004.	
Enable Auto Connect ┬MKDC62001.	Disable Auto Connect ┬MKDC62010.
Enable Auto Reconnect ┬MKDC6R001.	Disable Auto Reconnect ┬MKDC6R010.
Enable Auto Power Off ┬MKDC64001.	Disable Auto Power Off ┬MKDC64010.
Enable Auto Power On ┬MKDC66001.	Disable Auto Power On ┬MKDC66010.
Enable Beep Warning ┬MKDC68001.	Disable Beep Warning ┬MKDC68010.
Enable Power Off Msg ┬MKDC63001.	Disable Power Off Msg ┬MKDC63010.

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Display BT Mac Address TMKDC63100.	Display BT FW Version TMKDC63200.
Enable Wakeup Nulls TMKDC63401.	Disable Wakeup Nulls TMKDC63410.
Enable BT Toggle TMKDC6B001.	Disable BT Toggle TMKDC6B010.
Enable BT Disconnect Button TMKDC6B101.	Disable BT Disconnect Button TMKDC6B110.

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13.13 Bluetooth Auto Power On Time

Auto Power On Time = Disabled ┬MKDC67000.	Auto Power On Time = 1sec ┬MKDC67001.
Auto Power On Time = 2sec ┬MKDC67002.	Auto Power On Time = 3sec ┬MKDC67003.
Auto Power On Time = 4sec ┬MKDC67004.	Auto Power On Time = 5sec ┬MKDC67005.
Auto Power On Time = 6sec ┬MKDC67006.	Auto Power On Time = 7sec ┬MKDC67007.
Auto Power On Time = 8sec ┬MKDC67008.	Auto Power On Time = 9sec ┬MKDC67009.
Auto Power On Time = 10sec ┬MKDC6700A.	

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13.14 Bluetooth Power Off Time

BT Power Off Time = 1min TMKDC69001.	BT Power Off Time = 2min TMKDC69002.
BT Power Off Time = 3min TMKDC69003.	BT Power Off Time = 4min TMKDC69004.
BT Power Off Time = 5min TMKDC69005.	BT Power Off Time = 6min TMKDC69006.
BT Power Off Time = 7min TMKDC69007.	BT Power Off Time = 8min TMKDC69008.
BT Power Off Time = 9min TMKDC69009.	BT Power Off Time = 10min TMKDC6900A.
BT Power Off Time = 11min TMKDC6900B.	BT Power Off Time = 12min TMKDC6900C.
BT Power Off Time = 13min TMKDC6900D.	BT Power Off Time = 14min TMKDC6900E.

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BT Power Off Time = 15min ┬MKDC6900F.	BT Power Off Time = 16min ┬MKDC69010.
BT Power Off Time = 17min ┬MKDC69011.	BT Power Off Time = 18min ┬MKDC69012.
BT Power Off Time = 19min ┬MKDC69013.	BT Power Off Time = 20min ┬MKDC69014.
BT Power Off Time = 21min ┬MKDC69015.	BT Power Off Time = 22min ┬MKDC69016.
BT Power Off Time = 23min ┬MKDC69017.	BT Power Off Time = 24min ┬MKDC69018.
BT Power Off Time = 25min ┬MKDC69019.	BT Power Off Time = 26min ┬MKDC6901A.
BT Power Off Time = 27min ┬MKDC6901B.	BT Power Off Time = 28min ┬MKDC6901C.
BT Power Off Time = 29min ┬MKDC6901D.	BT Power Off Time = 30min ┬MKDC6901E.

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13.15 HID Auto Lock Time

HID Auto Lock Time = 0min (Never) TMKDC6C000.	HID Auto Lock Time = 1min TMKDC6C001.
HID Auto Lock Time = 2min TMKDC6C002.	HID Auto Lock Time = 3min TMKDC6C003.
HID Auto Lock Time = 4min TMKDC6C004.	HID Auto Lock Time = 5min TMKDC6C005.
HID Auto Lock Time = 10min TMKDC6C00A.	HID Auto Lock Time = 15min TMKDC6C00F.

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13.16 HID Keyboard

HID Keyboard = US TMKDC6F000.	HID Keyboard = German TMKDC6F001.
HID Keyboard = French TMKDC6F002.	HID Keyboard = Italian TMKDC6F003.
HID Keyboard = Spanish TMKDC6F004.	

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13.17 HID Initial Delay

HID Initial Delay = Disabled TMKDCH0000.	HID Initial Delay = 1second TMKDCH0001.
HID Initial Delay = 2seconds TMKDCH0002.	HID Initial Delay = 3seconds TMKDCH0003.
HID Initial Delay = 5seconds TMKDCH0005.	HID Initial Delay = 10seconds TMKDCH000A.

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13.18 HID Character Delay

HID Character Delay = Disabled MKDCH1000.	HID Character Delay = 10msec MKDCH100A.
HID Character Delay = 20msec MKDCH1014.	HID Character Delay = 30msec MKDCH101E.
HID Character Delay = 50msec MKDCH1032.	HID Character Delay = 100msec MKDCH1064.

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13.19 HID Control Character

HID Control Character = Disabled ┬MKDCH2000.	HID Control Character = Alt+Numpad ┬MKDCH2001.
HID Control Character = ^+Character ┬MKDCH2002.	HID Control Character = Replace with '|' ┬MKDCH2003.

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13.20 System

Memory Size = 0.5M / 3.5M ┬MKDC5E000.	Memory Size = 1M / 3M ┬MKDC5E001.
Memory Size = 2M / 2M ┬MKDC5E002.	Memory Size = 3M / 1M ┬MKDC5E003.
Memory Size = 4M / 0M ┬MKDC5E004.	Confirm memory size ┬MKDC5E100.
Memory Status ┬MKDC50001.	Reset Memory ┬MKDC50002.
Erase Memory ┬MKDC50003.	Reset App data ┬MKDC50004.
Reset BT Registry ┬MKDC50005.	
Enable Auto Erase ┬MKDC5F001.	Disable Auto Erase ┬MKDC5F010.

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Date/Time ┬MKDC52001.	Battery ┬MKDC53001.
Display Version ┬MKDC54001.	
Lock Button ┬MKDC55001.	Unlock Button ┬MKDC55010.
Enable Beep Sound ┬MKDC56001.	Disable Beep Sound ┬MKDC56010.
High Beep Volume ┬MKDC5D001.	Low Beep Volume ┬MKDC5D010.
Enable MFi Mode ┬MKDC6M001.	Disable MFi Mode ┬MKDC6M010.
Enable Vibrator ┬MKDC5G001.	Disable Vibrator ┬MKDC5G010.
Enable Auto Menu Exit ┬MKDC58001.	Disable Auto Menu Exit ┬MKDC58010.

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Enable Port Status ┬MKDC58101.	Disable Port Status ┬MKDC58100.
Display Format = Time & Battery ┬MKDC58200.	Display Format = Type & Time ┬MKDC58201.
Display Format = Type & Battery ┬MKDC58202.	Display Format = Memory Status ┬MKDC58203.
Display Format = GPS Data(GPS Model) ┬MKDC58204.	Display Format = Barcode Only ┬MKDC58205.
Enable Menu Barcode ┬MKDC52401.	Disable Menu Barcode ┬MKDC52410.
Enable Scrolling ┬MKDC59001.	Disable Scrolling ┬MKDC59010.
Factory Default ┬MKDC57001.	KDC Reset ┬MKDCA0000.

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13.21 Sleep Timeout

Sleep Timeout = Disable ┬MKDC51000.	Sleep Timeout = 1sec ┬MKDC51001.
Sleep Timeout = 2sec ┬MKDC51002.	Sleep Timeout = 3sec ┬MKDC51003.
Sleep Timeout = 4sec ┬MKDC51004.	Sleep Timeout = 5sec ┬MKDC51005.
Sleep Timeout = 10sec ┬MKDC5100A.	Sleep Timeout = 20sec ┬MKDC51014.
Sleep Timeout = 30sec ┬MKDC5101E.	Sleep Timeout = 1min ┬MKDC5103C.
Sleep Timeout = 2min ┬MKDC51078.	Sleep Timeout = 5min ┬MKDC5112C.
Sleep Timeout = 10min ┬MKDC51258.	

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13.22 Function

F1 TMKDC7001.	F2 TMKDC7002.
F3 TMKDC7003.	F4 TMKDC7004.
F5 TMKDC7005.	F6 TMKDC7006.
F7 TMKDC7007.	F8 TMKDC7008.
F9 TMKDC7009.	F10 TMKDC700A.
F11 TMKDC700B.	F12 TMKDC700C.

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13.23 Number

0 TMKDC7130.	1 TMKDC7131.
2 TMKDC7132.	3 TMKDC7133.
4 TMKDC7134.	5 TMKDC7135.
6 TMKDC7136.	7 TMKDC7137.
8 TMKDC7138.	9 TMKDC7139.

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13.24 Lower Case Alphabet

a TMKDC7161.	b TMKDC7162.
c TMKDC7163.	d TMKDC7164.
e TMKDC7165.	f TMKDC7166.
g TMKDC7167.	h TMKDC7168.
j TMKDC7169.	i TMKDC716A.
k TMKDC716B.	l TMKDC716C.
m TMKDC716D.	n TMKDC716E.

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o TMKDC716F.	p TMKDC7170.
q TMKDC7171.	r TMKDC7172.
s TMKDC7173.	t TMKDC7174.
u TMKDC7175.	v TMKDC7176.
w TMKDC7177.	x TMKDC7178.
y TMKDC7179.	z TMKDC717A.

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13.25 Upper Case Alphabet

A ₸MKDC7141.	B ₸MKDC7142.
C ₸MKDC7143.	D ₸MKDC7144.
E ₸MKDC7145.	F ₸MKDC7146.
G ₸MKDC7147.	H ₸MKDC7148.
I ₸MKDC7149.	J ₸MKDC714A.
K ₸MKDC714B.	L ₸MKDC714C.
M ₸MKDC714D.	N ₸MKDC714E.

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O TMKDC714F.	P TMKDC7150.
Q TMKDC7151.	R TMKDC7152.
S TMKDC7153.	T TMKDC7154.
U TMKDC7155.	V TMKDC7156.
W TMKDC7157.	X TMKDC7158.
Y TMKDC7159.	Z TMKDC715A.

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13.26 Control Character

BS TMKDC7108.	TAB TMKDC7109.
LF TMKDC710A.	VT TMKDC710B.
CR TMKDC710D.	ESC TMKDC711B.
Space TMKDC7120.	DEL TMKDC717F.
Shift + Tab TMKDC7111.	

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13.27 Symbol Character

! ₸MKDC7121.	" ₸MKDC7122.
# ₸MKDC7123.	$ ₸MKDC7124.
% ₸MKDC7125.	& ₸MKDC7126.
' ₸MKDC7127.	(₸MKDC7128.
) ₸MKDC7129.	* ₸MKDC712A.
+ ₸MKDC712B.	, ₸MKDC712C.
- ₸MKDC712D.	. ₸MKDC712E.

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/ ┬MKDC712F.	: ┬MKDC713A.
; ┬MKDC713B.	< ┬MKDC713C.
= ┬MKDC713D.	> ┬MKDC713E.
? ┬MKDC713F.	@ ┬MKDC7140.
[┬MKDC715B.	\ ┬MKDC715C.
] ┬MKDC715D.	^ ┬MKDC715E.
_ ┬MKDC715F.	` ┬MKDC7160.
{ ┬MKDC717B.	| ┬MKDC717C.

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} ₸MKDC717D.	~ ₸MKDC717E.
Start String ₸MKDC7201.	Stop String ₸MKDC7210.

Note

- The user can compose a string up to 16 characters.
- A string would be composed by scanning the "Start-String", number/alphabet/special characters, and "Stop-String" special barcodes.
- The KDC will abort string composition if the user do not scan "Stop-String" in one minute after scanning "Start-String" and number/alphabet/special characters.

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13.28 GPS (GPS Model Only)

Enable GPS Power ┬MKDCG0001.	Disable GPS Power ┬MKDCG0010.
Enable GPS Bypass Data ┬MKDCG1001.	Disable GPS Bypass Data ┬MKDCG1010.
Reset GPS Module ┬MKDCG2000.	GPS Acquire Test ┬MKDCG2001.
GPS Power Save Mode = Normal ┬MKDCG2002.	GPS Power Save Mode = Power Saving ┬MKDCG2003.
Enable GPS Auto Power Off ┬MKDCG3001.	Disable GPS Auto Power Off ┬MKDCG3010.

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13.29 GPS/BT Auto Power Off Timeot

Auto Power Off = 0min (Disabled) MKDCG4000.	Auto Power Off = 5min MKDCG4005.
Auto Power Off = 10min MKDCG400A.	Auto Power Off = 20min MKDCG4014.
Auto Power Off = 30min MKDCG401E.	Auto Power Off = 60min MKDCG403C.
Auto Power Off = 120min MKDCG4078.	

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13.30 NFC (NFC Model Only)

Enable NFC Power ~MKDCN0001.	Disable NFC Power ~MKDCN0010.
NFC Data Format = Data only ~MKDCN1001.	NFC Data Format = Packet data ~MKDCN1000.
UID Only = Enable ~MKDCN3001.	UID Only = Disable ~MKDCN3000.

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13.31 USB Disk (M Model Only)

USB Serial Mode ┬MKDCU0000.	USB Disk Mode ┬MKDCU0001.
Format USB Disk ┬MKDCU1000.	
Data Format = Data ┬MKDCU2000.	Data Format = Data,Time ┬MKDCU2001.
Data Format = Data,Type ┬MKDCU2002.	Data Format = Data,Time,Type ┬MKDCU2003.

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14. APPENDIX E - MSR Special Barcodes (KDC415/425MSR)

14.1 KDC415MSR

Beep On Error	
No Beep On Error M6000	Beep On Error M6001
Data Format	
MSR Data Only M1000	Packet data M1001
Encrypt Mode	
Disabled M2000	AES M2001
Enable Track	
Enable Track1 M3001	Enable Track2 M3002

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Enable Track3 M3004	
Disable Track	
Disable Track1 M4001	Disable Track2 M4002
Disable Track3 M4004	
Track Separator	
Track Separator = None M5000	Track Separator = Space M5001
Track Separator = Comma M5002	Track Separator = Semi Colon M5003
Track Separator = CR M5004	Track Separator = LF M5005
Track Separator = CR+LF M5006	Track Separator = Tab M5007
AES Key Length	

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AES Key Length = 128 bits M8000	AES Key Length = 192 bits M8001
AES Key Length = 256 bits M8002	
MSR Card Type	
MSR Card Type = ISO MA000	MSR Card Type = Other 1 MA001
MSR Card Type = AAMVA MA002	

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14.2KDC425MSR

Beep On Error	
No Beep On Error ┬MKDCM6000.	Beep On Error ┬MKDCM6001.
Data Format	
MSR Data Only ┬MKDCM1000.	Packet data ┬MKDCM1001.
Encrypt Mode	
Disabled ┬MKDCM2000.	AES ┬MKDCM2001.
Enable Track	
Enable Track1 ┬MKDCM3001.	Enable Track2 ┬MKDCM3002.
Enable Track3 ┬MKDCM3004.	
Disable Track	

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Disable Track1 ┬MKDCM4001.	Disable Track2 ┬MKDCM4002.
Disable Track3 ┬MKDCM4004.	
Track Separator	
Track Separator = None ┬MKDCM5000.	Track Separator = Space ┬MKDCM5001.
Track Separator = Comma ┬MKDCM5002.	Track Separator = Semi Colon ┬MKDCM5003.
Track Separator = CR ┬MKDCM5004.	Track Separator = LF ┬MKDCM5005.
Track Separator = CR+LF ┬MKDCM5006.	Track Separator = Tab ┬MKDCM5007.
AES Key Length	

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AES Key Length = 128 bits ┬MKDCM8000.	AES Key Length = 192 bits ┬MKDCM8001.
AES Key Length = 256 bits ┬MKDCM8002.	
MSR Card Type	
MSR Card Type = ISO ┬MKDCMA000.	MSR Card Type = Other 1 ┬MKDCMA001.
MSR Card Type = AAMVA ┬MKDCMA002.	

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15. Appendix F – Multiple Special Barcodes

This chapter explains how to make a multiple configuration barcode for the KDC to configure multiple KDC settings by scanning one barcode. The KDC provides special barcodes that enable changes to the KDC configuration; but, this current barcode changes only one configuration. New KDC firmware VersionR_305 introduces a feature to enable the user to make one special barcode to change multiple KDC configurations.

15.1 KDC20/KDC100/KDC250/KDC350L/KDC410/KDC415

- Barcode type Code128 is used to make a single special barcode and its format is as follows:

  <FNC3><Barcode String>

  Here, the <FNC3> is a Code 128 control character and the <Barcode String> is an ASCII string for each KDC configuration.

- The multiple configuration Code128 barcode format is as follows and has a control character and series of barcode strings.

  <FNC3><Barcode String 1>;;;;; <Barcode String N>

  Here, the <FNC3> is a Code 128 control character and the <Barcode String 1> and <Barcode String N> are an ASCII string for each KDC configuration. The ';' is a separator for each configuration's barcode string. Please see user manual for the <Barcode String> for KDC configuration.

- Example: Assume the user is changing the following configurations with one barcode.
  - Change Wedge/Store to "Wedge Only" ➔ <FNC3>82000
  - Change Termination Character to "None" ➔ <FNC3>88000
  - Change Bluetooth "Auto PowerOff" to "Disabled" ➔ <FNC3>64010

  <FNC3>82000;88000;64010

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15.2KDC30/KDC300/KDC350C/KDC420/KDC425/KDC450

- The following format is for a single configuration barcode format:

<SYN> M <CR> KDC <Barcode String>.

- *<SYN> is a control character 0x16 in hex format.*
- *M is an ASCII character 0x4D in hex format.*
- *<CR> is a control character 0x0d in hex format.*
- *KDC is an ASCII string 0x4B 0x44 0x43 in hex format.*
- *<Barcode String> is an ASCII string for each configuration*
- *. is an ASCII string 0x2E in hex format that indicates the end of barcode.*
- The multiple configuration barcode string uses a repeated barcode string of each configuration in the following format:

<SYN>M<CR>KDC<Barcode String 1> ;;;;; <Barcode String N> .

- *<SYN> is a control character 0x16 in hex format.*
- *M is an ASCII character 0x4D in hex format.*
- *<CR> is a control character 0x0d in hex format.*
- *KDC is an ASCII string 0x4B 0x44 0x43 in hex format.*
- *<Barcode String1> and <Barcode String N> are an ASCII string for each configuration*
- *; is a separator between each barcode strings.*
- *. is an ASCII string 0x2E in hex format that indicates the end of barcode.*

- Example: Assume the user is changing the following configurations with one barcode.
  - *Change Wedge/Store to "Wedge Only" ➔ <SYN>M<CR>KDC82000.*
  - *Change Termination Character to "None" ➔ <SYN>M<CR>KDC 88000.*
  - *Change Bluetooth "Auto PowerOff" to "Disabled" ➔ <SYN>M<CR>KDC 64010.*

<SYN>M<CR>KDC82000;88000;64010.

- Code 128

- QR code

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